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1955

fueloil & oil heat

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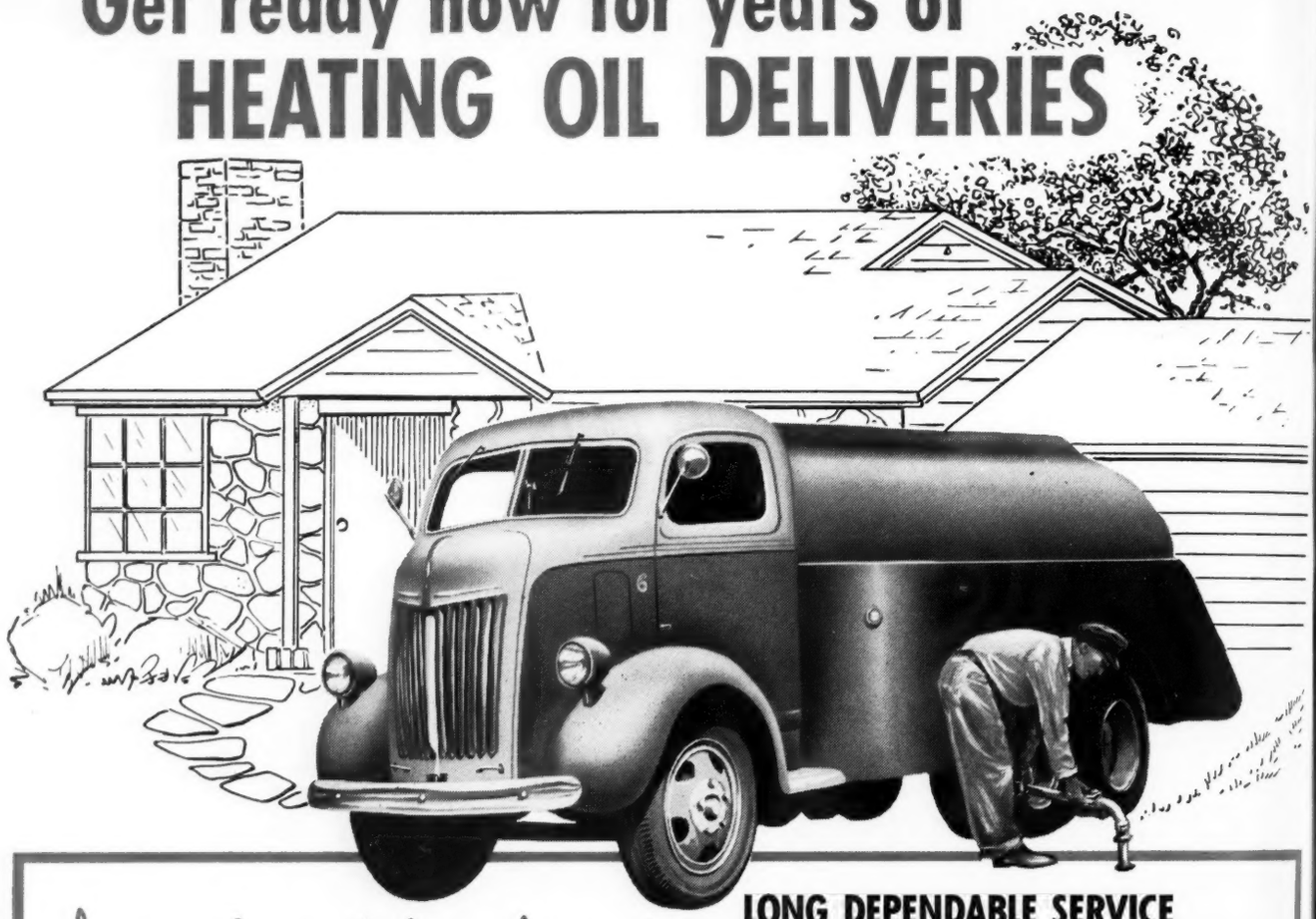

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Brodie BiRotor Tank Truck Meter Model B-41C equipped with Brodimatic Printing Quantrol and strainer-air eliminator unit.

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

AUGUST fueloil & oilheat 1955

VOLUME 14 NUMBER 8

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Among other things:

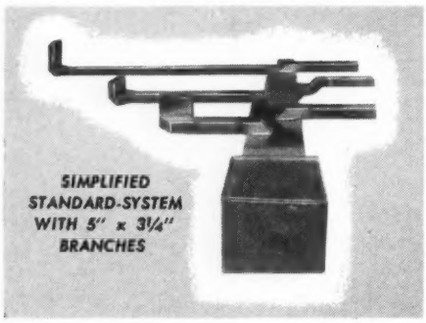
The front cover picture shows a house heating analog in Honeywell's research center. It can simulate a house anywhere in the world and analyze its reaction to any kind of weather. More pictures of the research facility are included in "Heating Controls Lab Visit."

The first feature, on page 55, uses photographs, too, along with Schulz's observations to describe the new Underwriters' Laboratories testing station at Northbrook, Ill. And, more pictures feature pages on Carlin's oilburner plant and Mull & Zysk's "Mobile sheet metal Shop."

Jalonack is back with his third article on "Oilheating for Builders," this time discussing prefabricated houses and the opportunity they present to oilfired equipment manufacturers and the local dealers, too.

More on heating—this time an imaginative proposal to sell its health aspects—is explored by Art Winkler in the article, "My heating Plant is my Enemy."

PERIMETER HEATING MADE EASY... with DUC-PAC



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Neatly boxed Duc-Pac unassembled fittings are quickly, easily loaded and unloaded . . . can't become battered on the way to the job.

For complete information on DUC-PAC perimeter and conventional fittings, request Bulletin 654.

DUC-PAC
DIVISION OF SWETT BROS.
78 ISLAND POND ROAD
SPRINGFIELD • MASSACHUSETTS

Names in the News

Carl H. Strack has been appointed marketing manager for the Toridheet Division of Cleveland Steel Products Corp., Cleveland, Ohio. Strack will direct and supervise domestic distribution and sales of the Division's automatic heating equipment. He formerly was associated with Remington Rand as branch sales manager and more recently as sales manager for C. L. Bryant Corp.

Glenn B. Klinefelter has been named special assistant to Henry A. Feil, president, Gorton Heating Corp., Cranford, N. J. He will be associated with the sales of Gorton valves. Klinefelter was with Factory Mutual Engineering Division's Philadelphia office for four years.

Franklin L. Kundahl has been elected vice-president, Crown Petroleum Corp., Hartford, Conn. He is also general manager of the company and for the past two years has been president of the Connecticut Petroleum Association.

P. E. Tobin has been appointed general sales manager, Truck Division, The White Motor Co., Cleveland. He had been North Atlantic regional manager for White in New York City and succeeds *J. N. Bauman,* recently elevated to executive vice president. Tobin is a director of the Greater New York Safety Council and the New York Board of Trade. He will be responsible for all field operations of the Division as well as sales and service activities at the home office.

L. T. White, Cities Service Petroleum, Inc., New York, has been given an honorary master of business administration degree from Western Michigan College, Kalamazoo. Widely known for his work in the field of education for the petroleum industry, White has worked with the college in establishing pioneer programs in service station management and operation.

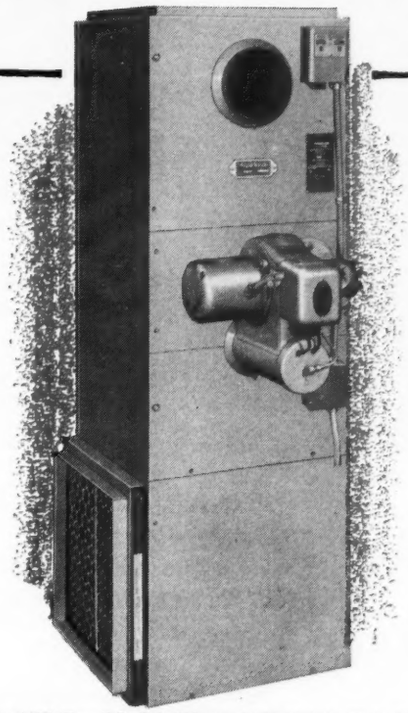
J. C. Carlton has been promoted to assistant sales manager by the Duo-Therm Division, Motor Wheel Corp., Lansing, Mich. Formerly district sales manager for Duo-Therm's Mid-Atlantic Division in Philadelphia, Carlton has been with the organization for 25 years. He replaces *L. C. Vandertill,* who was recently named sales manager of the corporation's Reo Division.

William S. Rheem II, general manager, Rheem Mfg. Co., Chicago, was elected recently to the board of directors and named vice president of the company. He joined the company in 1937 as a shop worker during vacations and then was employed in various production and administrative capacities. He became assistant general manager in 1953 and a year and a half ago became general manager in charge of the company's four operating divisions.

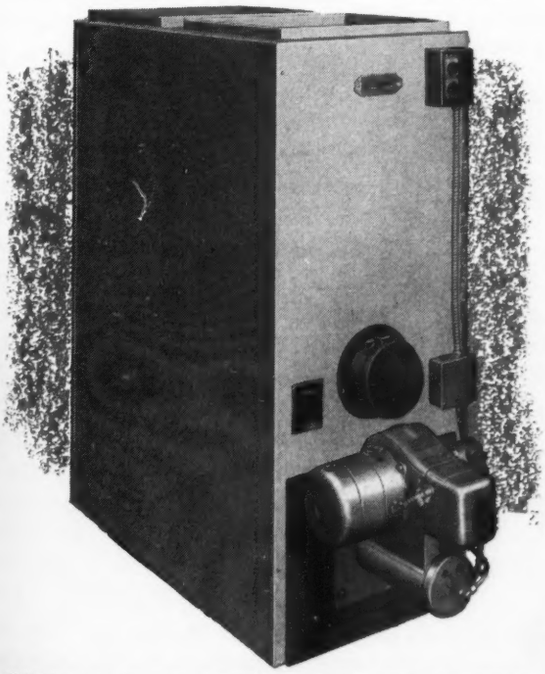
Karl H. Hilgendorf recently joined the Cleaver-Brooks Co., Milwaukee, Wisc., as advertising manager. Formerly associated with Allis-Chalmers and Johnson Service Co., Hilgendorf will have responsibility for planning and directing nationwide advertising plans for the company's four divisions. The company makes stationary and portable boilers, industrial oilburners, evaporators and distillation equipment.

Sell these modern fluid heat *quality* heating units priced for your builder trade!

Here's what you can offer builders!



Oil-Fired Hi-Boy Model SU-84: 63⅞" high, 21" wide, 35" long (incl. burner); 84,000 BTU/hr. output. Also available: Hi-Boy Model SU-112: 67⅞" x 23½" x 37½" (incl. burner); 112,000 BTU/hr. output. Both UL approved.



Oil-Fired Lo-Boy Model B-84: 53" high, 21" wide, 52½" long (incl. burner); 84,000 BTU/hr. output. UL approved.

- **Rock-bottom prices with no drop in famous Fluid Heat quality!**
- **Wide range of models and sizes!**
- **Prestige of a top name in the industry!**
- **Satisfied customers, with no comebacks!**

Here's a new line of Fluid Heat heating units, designed specifically for the building trade. Each unit boasts the same Fluid Heat quality features and top construction as always—only the frills have been left off. And the price has been cut 'way back to put you in a favorable competitive position. If you are looking for a good connection, it will pay you to mail the coupon for more details!

fluid heat®
AUTOMATIC HEATING EQUIPMENT

"WORLD'S ECONOMY CHAMPION"

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My Name.....

Address.....

City.....Zone.....State.....

Take a long look at this new look in controls

CRISE

QUALITY CONTROLS

•

MODEL FAL40

Combination Fan and Limit Control

NEW—cleaner, neater appearance

NEW—ease of adjustment permits more precise settings

NEW—improved dial arrangement is easier to read

NEW—closer differential on fan

NEW—clear-faced lucite window

All Models Vastly Improved

All Crise controls have undergone a major "face-lifting." Their improved appearance has been matched by engineering advances that result in closer operation, longer life and greater ease in setting. Now, more than ever, Crise is the *value leader* in *quality* temperature controls. Write for catalog and price list.

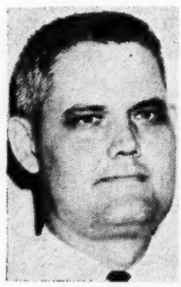
CRISE CONTROLS DIVISION

ACRO MANUFACTURING COMPANY

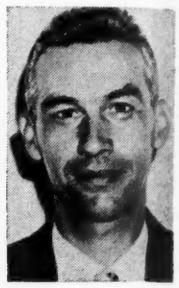
COLUMBUS 16, OHIO

Distributed in Canada by Leland Electric Canada, Ltd., Guelph, Ontario

Donald G. Wright will head the appliance and furnace sales divisions, Perfection Stove Co., Cleveland, succeeding *J. H. Rasmussen,* who has retired as vice president and director of appliance sales. *Phillip J. White* has been named sales manager of Perfection's refrigeration contract division.



Wright



White

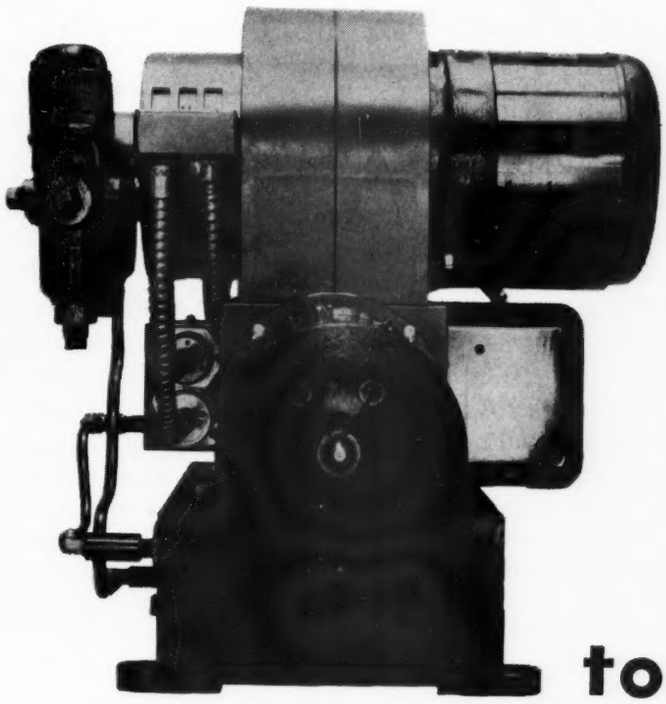
Wright had been general manager of Globe Stamping and Refrigeration Products Div., Hupp Corp. and had also been with Chrysler Corp. White had been with Hupp's Government Contracts Division.

Paul R. Newkirk has been promoted to merchandising manager, Space Heater Division, Magic Chef, Inc., St. Louis. He has been with the company since 1943.

A. T. Gordon has been named New York District sales manager, Delta Distributing Corp., Trenton, N. J. He has had ten years of sales experience in the heating industry and will headquarter at 152 W. 42nd St. in New York.

Edwin A. Scott, 77, publisher of various magazines in the heating, air-conditioning, sheet metal and plumbing industries, died recently following a long illness. He was board chairman of Scott-Choate Publications, Tarrytown, N. Y. He is survived by a son and daughter.

Peter Storti, 47, chief product engineer in charge of industrial gas and oilburning equipment, Iron Fireman Mfg. Co., Cleveland, died June 9, 1955. He started in the heating industry at the age of 18 when he was hired by Ray Oil Burner Co., San Francisco. When he left that company in 1943 he was assistant to the president. Storti joined Iron Fireman in 1947.



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High Pressure Gun Type Oil Burner

Approved by Underwriters' Laboratories, Inc.

to Burn #4 Oil

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- *As Easy to Install and Service*
- *Built-in Electric Oil Preheaters*
- *No Complicated Parts*
- *Can Use Existing Piping in Practically All Cases*

Approved for No. 5 Oil by New York City Board of Standards and Appeals

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SUN-RAY – FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY

Models for Every Heating Need in Sizes from 0.5 to 22 g.p.h.

SUN-RAY BURNER MANUFACTURING CORPORATION

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fueloil & oilheat

Editorial Leaks

ONE OF OUR FAVORITE youngsters has got himself a job. Tall, good looking and forty-ish, Al Nickerson is the new president of Socony Mobil Oil Co., one of the world's largest and, even more important, one of the industry's top rooters for the heating oil part of the business.

Al, or "Nick" to some of his associates, was only out of college short years ago, or maybe it actually was as early as 1934, but even so he moved up faster than most folks . . . from pumping gas in a filling station. That was his first job out of school, and if he couldn't still handle that work today it's only because the style of pumps has changed.

To us in the fueloil and oilheating business it is good to get these young masterminds into the key spots. There has been no time in Al's study of the industry that fueloil was not important. His college diploma came the same year we as an industry grew to manhood, so we have pushed up together. He understands our language.

❖

AND WHILE ON the subject of favorite youngsters, it was with more than a little relief that we learned that it isn't true about Will Parker retiring. All the publications had it that way except us and we hadn't yet reached a date for the next issue or we would have made the same mistake.

Will is secretary of the North Carolina Oil Jobbers Assn., one of the industry's more colorful characters and a gentleman in the true sense.

Attending one of his conventions, as who hasn't, was always an experience because he takes over completely some large resort hotel and it becomes an oil family party almost like a house party with the Parkers as hosts.

They say Will is 77 and that he actually did retire at 63, but his friends coaxed him to "help out a little" with the association. The first thing he knew he was back in full harness and still is.

The truth about the rumor of his latest retirement is that he plans over the next three years to shed some of his responsibilities, to train younger men in the work and then coast out at 80. Wanna bet?

❖

IT WAS AT A LUNCHEON the other day that officials of several major oil companies met to discuss the progress of the new promotional clearing house called "Oilheating Market Reports."

These men were from the companies supporting the central effort through which these suppliers are to work more actively with fueloil distributors to glorify oilheating in many individual markets.

They were discussing the purposes of the programs and the sums involved. J. G. "Doc" Jordan, marketing vice-president of Shell, gave the thing a new twist. He said in effect, "To us the advertising and sales promotion to sell more fueloil is not the primary goal. What we do feel, and more strongly, is a responsibility to our marketers to help them in any way we can.

"We persuaded them to go into the business in the first place and if we find today that they are being hurt by the pressure of competition from any angle we have a definite responsibility to help them. We brought them into the family . . . they deserve whatever help we can give them, as family members."

❖

ANOTHER RECOGNITION from the top echelon of the increasing need to really "sell" oilheating is seen in this statement to his own people by C. J. Guzzo, vice-president and general manager of Gulf Refining:

"Since the close of World War II, consumption of home heating oils has increased enormously. During this decade refiners and resellers of home heating oils have grown with the rapidly growing demand for automatic heat.

"Competition has been ever-present, but its effect will be much more obvious hereafter than it has been thus far in the postwar years. Increased production of fueloils and the presence of other automatic fuels make an aggressive marketing policy indispensable to the future success of everyone who retails home heating oils."

Coming from Mr. Guzzo that is a very significant statement. Reading between the lines, it suggests that if other fuels are allowed an unreasonable share of the automatic heat market, we can look for more severe competition within the industry.

❖

A LOT OF folks including most of us are interested in life expectancy. There is, for example, an article in this issue on the identification of oilheating with the personal health of the customer's family. But for the moment what we have in mind is a clipping sent us from "Rockland Trends" of Illinois in which the writer talks about keeping down your weight to live longer, avoiding excesses and high strung living.

But the punch line in the article is in the last paragraph, "America admires go-getters but the same drive that brings fame and fortune pushes many to an early death. A good example is advertising executives, who die at the low average age of 58."

It's good to be in the editorial department, not the advertising, but a lot of our best friends are in that advertising executive class, although they're not yet 58. Boy, take it easy, and if our ad copy department keeps putting pressure on you to meet our deadlines, take 'em seriously, but don't let any other people push you around.

❖

FROM THE SUBLIME to the ridiculous and thinking of natural gas competition, the Hartford Gas Co. has joined the ranks of the semi-frustrated and is offering to rent gas conversion burners at $2.95 a month to home owners.

They will pay to heating contractors $210 to $238 for installing one of these rental systems providing the heating man digs up the customer. The burner and controls cost him $72.76. There's gold in them hills . . . and it may work.

Bob Gray

A Powerful Talking Point

in any Fuel Oil Sales Plan

You will find amazing appeal for the householder in the automatic features of VENTALARM Signal fuel oil delivery! Over 4500 major and independent dealers have proved this to their own satisfaction.

This year, make VENTALARM Signal the heart of *your* sales campaign. Use its guarantee of clean, convenient delivery in the following specific ways:

1. To convert old customers to a more profitable "keep full" basis.
2. To regain lost customers.
3. To gain the favorable attention of prospects.

Successful Sales Plans Including Advertising Aids

ready for your immediate use

Write today for your Free Copy of

"A FUEL OIL SALES PLAN"

With it, we will send sample copies of letters, folders, envelope stuffers, cards and newspaper ads all ready to go to work for you. The literature can be imprinted in your name and it all is available at less than cost.

For Tanks in Use
Model LC
with easy compression-fit top

For New Tanks
Model LA
with threaded top

Count on VENTALARM Signal to save you between 15% to 30% on delivery costs in addition to all its customer benefits.

Over 4,000,000 VENTALARM Signals proven in field use.

Manufactured under full and active patent protection.

Sold through a nationwide network of leading Supply Houses.

Underwriter's Laboratories Listed: VENTALARM Signals Type LA (1¼" x 1¼"), #220 (1¼" x 1¼" compression top), #521 (2" x 1¼"), #270 (2" x 2"), #271 (2" x 2" with half union top), #275 (2" x 2" with compression top); VENTALARM GAUGE combinations Type VG-A (2" x 1¼") and VG-B (1½" x 1¼").

Universally approved by Leading Fire and Safety Authorities in accordance with the individual models which fulfill local regulations.

SCULLY SIGNAL COMPANY 174 Green St., Melrose 76, Mass.

1955 SCULLY SIGNAL COMPANY

Canadian Branch: SCULLY SIGNAL LTD., 286 King St. W., Toronto, Ont.

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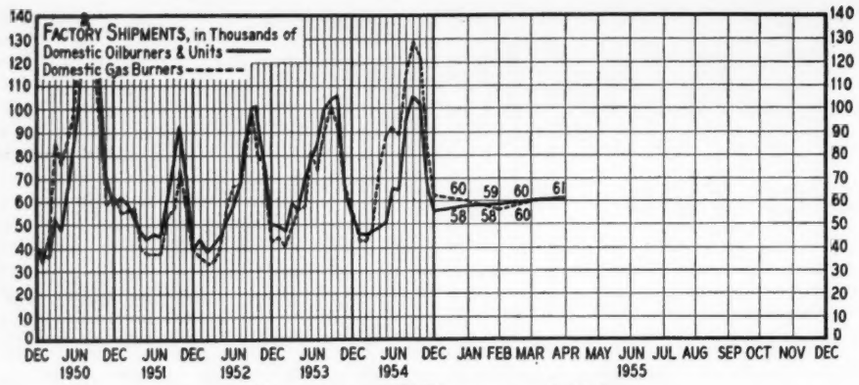
VENTALARM® GAUGE
Combination Audible Signal and Visible Gauge

SCULLY® GAUGE
Easy-to-See Separate Gauge Sturdy, Economical

FASFILL® CONNECTOR
Portable Connection for Gun and Fill Pipes of all sizes

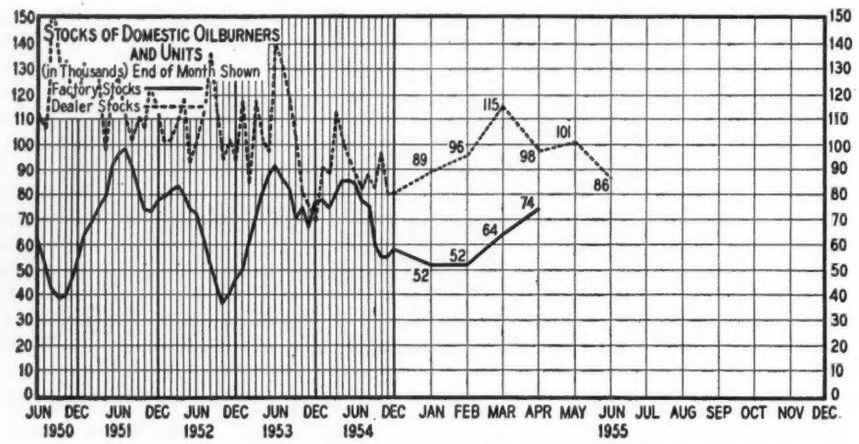

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
60 59 60 61
58 58 60
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	APRIL			FOUR MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Conversion burners	40,756	33,758	+ 20.7	163,377	125,177	+ 30.5
Boiler Units	5,791	4,123	+ 40.5	20,561	15,405	+ 33.5
Furnace Units	14,276	10,757	+ 32.7	53,060	43,043	+ 23.3
All Domestic	60,823	48,638	+ 25.1	236,998	183,625	+ 29.1
Commercial	2,498	2,483	+ .6	10,050	10,137	— .9
Total	63,321	51,121	+ 23.9	247,048	193,762	+ 27.5


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
89 96 115 98 101 86
52 52 64 74
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

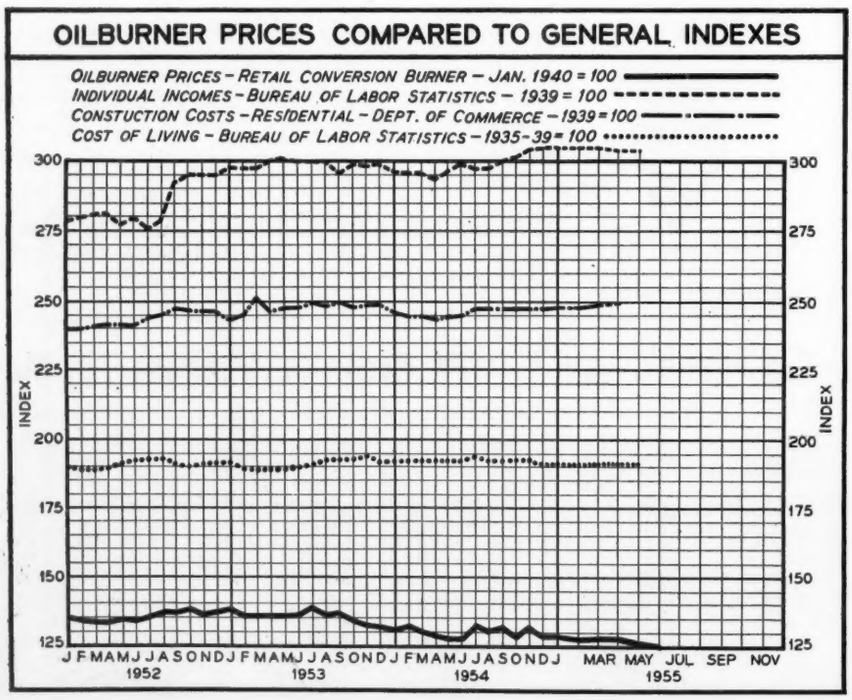
June Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
June Aver.	$310	$690	$564
May Aver.	314	709	590

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
June	139.1	Six months ago	135.0	June	124.5	Six months ago	127.6
May	139.7	Year ago	138.3	May	125.9	Year ago	127.3

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935-39 = 100
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1952 1953 1954 1955

Oilheating Trends

INSTALLATIONS of domestic oilburners and units in June were approximately 62,671 or 10% above the 57,223 in the same month last year. The June installations were divided: New Homes, 24,748; Replacements of old oilburners, 8,895; Conversions from other fuels, 29,028.

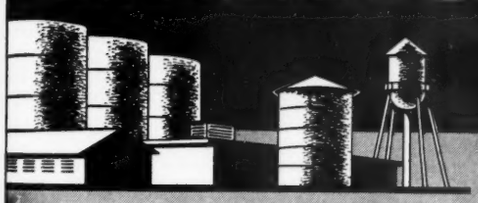
Total installations for the first half of the year were 294,003 compared with 267,334 showing again a rise of 10%. It is a rule of thumb not often missed very far, that total installations for the year will be three times those of the first half. That would point to the total year's installations of around 875,000. From what we can see today that figure looks conservative.

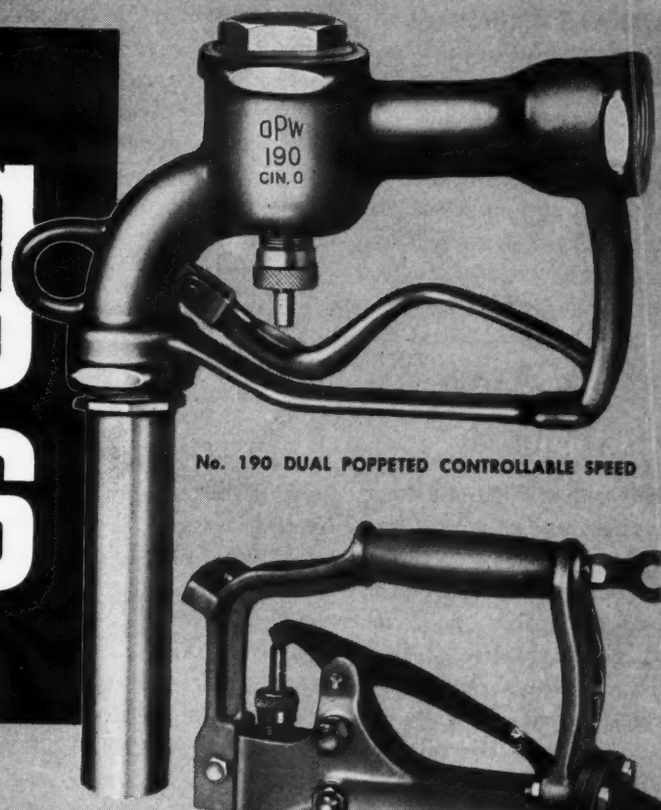
BURNER STOCKS: At the end of June dealers had on hand approximately 86,331 domestic oilburners and units. This compares with 101,260 the previous month and with 86,331 the previous year. The June 30 stocks were divided: Separate burners, 43,226; Boiler-burner units, 17,615; Furnace-burner units, 25,490.

Factory stocks on April 30 were 74,463 compared with 86,832 on the same date in 1954.

TANK STOCKS: Just why tank stocks are running so low this year is mysterious, but it must be that local dealers are getting more of them from sources near at hand rather than piling them up in the back lot. Again the question of the Underwriters Laboratories and their changing viewpoints on bottom outlet versus end outlet may cause the dealers to hold back. Whatever the cause, however, these stocks at the end of June were down to 35,772

fueling nozzles





No. 190 DUAL POPPETED CONTROLLABLE SPEED

No. 620 HI-PRESSURE TYPE

No. 1190 HIGH CAPACITY
AUTOMATIC SHUT-OFF NOZZLE

No. 220 GRAVITY LO-PRESSURE TYPE

OPW has designed these liquids dispensing nozzles in a wide variety of sizes to assure you of having the right nozzle for a fast, fully-controlled, dependable operation regardless of the delivery condition.

EACH engineered for high capacity, wide flow range with minimum turbulence; easy shut-off, with no product surge . . . *ALL*, for minimum weight, perfect balance, durability and long service life.

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fueloil & oilheat

compared with 48,007 at the end of May and with 51,704 a year ago.

By sizes the June 30 stocks were: 220-275 gallon, 29,820; sizes 550-676 gallon, 3,968; sizes 1,000 gallon and over, 1,984.

The average price paid by dealers during the month of June for a 275 gallon tank was $29, or the same as the previous month.

Special Study this Month

Gas Competition: This is a topic interesting to oilheating dealers and fueloil companies in almost every section of the country, although we are omitting from this analysis the Pacific Northwest because gas is too little used in that area up to now.

One interesting phase of gas heating competition from the oilman's viewpoint is that gas is sometimes restricted in supply to the point where the local utility cannot take any more heating business. In 8% of the New England markets, the utility has virtually stopped taking new gas heating users, while in 92% of the cities and towns the utility still wants all it can get.

In the Mid-Atlantic states, 14% of the markets are virtually stopped for additional gas heating, and 86% can take more business. It is when we move to the Mid-West that we encounter the full impact of this situation. A little more than two-fifths, 42%, of the cities heard from in those states have some restriction on gas-heating expansion, while 58% still want all they can get. The Eastern states will be finding more gas markets drying up as the long distance lines become used to capacity.

In those cities where the gas utility cannot take more business, the period of shut-down in the East has averaged only six months, while in the Mid-West it has averaged 29 months.

The reporting companies were then asked which year had brought the greatest growth of gas heating in their particular markets. In New England we found that 45% of the cities are having their strongest gas heating growth this year, 36% had it last year and 19% hit the peak of gas activity two years ago.

When we look at the Mid-Atlantic section, the greatest growth seems to have occurred in 1954 with 30% of the companies voting that way. The current year, however, was second choice with 26% of cities finding the greatest gas heating growth this year. Again, 24% say that they noticed it most in 1953. The markets in this re-

Oilburner* and Building Permits

OILBURNER					DWELLINGS			
June		6 MONTHS			June		6 MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
11	12	..	59	Albany, N. Y.	..	..	..	..
39	73	217	340	Baltimore, Md.	253	316	1860	1370
..	..	..	..	Binghamton, N. Y.	28	44	101	104
..	..	..	..	Bloomfield, N. J.	109	10	212	45
..	..	..	..	Boston, Mass.	..	32	..	232
108	106	575	477	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	32	42	253	217
0	4	..	96	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	169	411	..	1985
..	..	..	..	Detroit, Mich.	298	270	1384	1506
34	51	149	182	Elizabeth, N. J.	4	6	30	37
38	45	215	223	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	52	25	214	236
..	..	..	..	Hackensack, N. J.	4	16	38	44
..	153	..	667	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
38	29	139	146	Irvington, N. J.	2	1	19	11
..	..	..	..	Lynn, Mass.	19	16	111	85
34	32	184	294	Meriden, Conn.	..	..	..	..
..	479	..	2622	Milwaukee, Wisc.	..	420	..	1760
18	6	83	75	Minneapolis, Minn.	97	141	398	517
22	26	77	93	Montclair, N. J.	..	..	..	..
11	..	30	..	Morristown, N. J.	2	5	14	38
31	39	153	150	Mt. Vernon, N. Y.	..	..	..	..
134	165	..	596	Newark, N. J.	..	..	..	..
93	34	377	242	New Bedford, Mass.	..	..	..	..
24	31	116	173	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	32	..	115	New Rochelle, N. Y.	46	32	239	170
..	..	..	..	New York City (Total)	..	..	..	..
890	1070	4722	5508	Brooklyn-Queens	..	..	..	..
..	..	..	..	Manhattan, Bronx, Rchd	..	..	..	..
26	19	143	285	Norfolk, Va.	45	37	348	224
..	..	..	..	Oakland, Calif.	..	..	..	..
..	8	..	79	Omaha, Nebr.	..	107	..	574
13	15	..	59	Orange, N. J.	2	3	10	10
8	18	46	66	Passaic, N. J.	..	..	..	..
..	31	..	139	Paterson, N. J.	27	31	101	175
362	347	1523	1890	Philadelphia, Pa.†	..	..	..	..
..	..	..	..	Plainfield, N. J.	19	38	77	78
51	54	253	232	Portland, Me.	19	15	97	72
312	359	1825	1717	Portland, Ore.	120	200	676	932
18	9	100	112	Poughkeepsie, N. Y.	..	..	..	..
..	76	..	..	Providence, R. I.	..	32	..	94
..	..	..	..	Reading, Pa.	4	3	17	27
36	38	193	174	Richmond, Va.	39	48	192	248
70	116	..	260	Roanoke, Va.	..	..	..	..
149	217	572	793	Rochester, N. Y.	..	..	..	..
..	17	..	63	Rockville Center, N. Y.	..	8	..	35
35	31	165	162	Salem, Mass.	10	6	42	29
..	147	..	620	St. Louis, Mo.	35	58	248	289
4	7	47	46	St. Paul, Minn.	114	98	465	556
..	19	..	125	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	175	280	1160	1313
..	204	..	827	Spokane, Wash.	..	..	..	..
172	109	677	592	Springfield, Mass.	176	117	922	602
15	18	164	170	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	8	5	40	39
..	..	..	..	Utica, N. Y.	68	41	155	90
30	20	267	274	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	42	36	167	129
26	26	..	118	White Plains, N. Y.	60	23	114	112
55	34	212	259	Wilmington, Del.	5	4	42	32
122	119	513	594	Worcester, Mass.	..	..	..	..
67	61	254	268	Yonkers, N. Y.	..	..	..	..
2723	2993	12438	13647	*Totals*	2015	2337	9591	9247
—9.0	..	—9.0	..	*Percent Change*	—14	..	+4	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

†Courtesy of "Philadelphia Inquirer."

gion that had largest gas gains earlier than 1953 represent 20% of the total.

When we come to the Mid-West, we find that the two big years for gas expansion were 1954 and 1950 in that order. The two years accounted for 36% and 27%, respectively, of the total market peaks for gas reported from that section. Only 9% of the companies report a peak of gas competition earlier than 1950.

Gas heating Rates

Gas heating rates change quite a lot when you look into many markets in a section. For example, in New England, our reporting companies say that 8% of the utilities raised their rates since last summer by an average amount of 4%. On the down side, we find that 31% of New England gas utilities reducing their rates within the past twelve months and they cut them by an average of 10%.

In the Mid-Atlantic states, 13% of the utilities raised their prices for heating fuel within the past year by an amount averaging 7%; then 16% of the companies dropped their house heating rates by an average of 4%.

In the Middle West, just under a third of the gas companies in markets heard from raised their heating prices within a year by 8%, while 16% of the utilities reduced them an average of 15%.

Gas utilities are doing quite a lot of advertising of heating, as reported by two-thirds of the companies. Another one-fourth of the companies say that their gas competitor is doing a moderate amount of heat advertising.

In the New England states, the utilities devote just under three-fifths of their total advertising budgets to the heating side of the business. In the Mid-Atlantic states this moves up to 65% and in the Middle West it comes to 77% of their total promotion.

The gas people are quite intelligent in putting a lot of promotion on heating, particularly in Eastern markets where the idea is new and attracts considerable notice.

They have had increasing competition from electric cooking and water heating. They know if they can sell gas for heating the house they are sure to get the other. In the heating promotion they encounter very little competitive advertising from other fuels, while on the cooking side of it they get a lot of opposition from the electric people.

We next asked the reporting group how they think the gas heating sales in their markets this year will compare with either last year or their strongest previous year. The New England reporting companies expect gas sales to be up 29% and not a single oilman reported an expected drop in gas sales throughout that area. In the Mid-Atlantic states however, 32% of the reporting oilmen expect gas sales to be up this year by 13%, but in this area we find that 13% of the companies expect gas heat sales to be below their best year by an average of 12%.

When we look at the Mid-West on this point just a third of the oilmen believe that gas heating sales in 1955 will be higher than the best previous year, and this will be by an average of 10%. One-fourth of the Mid-West marketers say that gas heat sales will be down by an estimated average amount of 45%. The remaining 42% of companies heard from in the Mid-West see no particular change.

Renting Burners

The practice by the local utility of renting gas burners is attracting quite a lot of notice especially in New England where 38% of the oilmen say that equipment will be rented in their town. In the Mid-Atlantic area, only 3% of the gas utilities are reported as renting equipment and in the Mid-West we don't encounter this practice.

Obviously it is related to the degree of success that the utility has had in getting equipment sold. These rental agreements usually involve about $3 a month charges and a guaranteed fuel bill. The customer has up to 24 months to buy the equipment and get full credit for his rental payments.

One very significant measure of the rise of gas heating is of course the speculative builder market where it has made its greatest headway.

In the New England states, the oilmen tell us that gas is now getting 33% of the builder business, whereas, three years ago it was getting 6%. In the Mid-Atlantic areas, gas is now getting 59% of the speculative new homes compared to 41% three years ago. In the Mid-West the builders are furnishing gas heat in 65% of the new homes, whereas, in 1952 this figure was 52%.

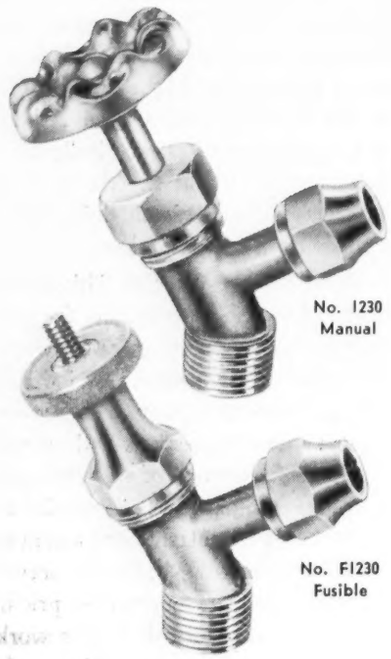
When we combine these three areas which are of course the strongest oilheating areas we find gas getting 56% of the speculative builder business compared with 37% three years ago. Of course in the nation as a whole gas gets a bigger share in the total because in the Southern states from Atlanta to Los Angeles it has practically all of that business. In the Northern states, however, oilheating is still doing rather well in the builder market.

What Should We Do: This month instead of asking the dealers for general comments, we gave them the specific question "How can our industry fight gas more effectively?" There were a great many suggestions and we will try to get in enough of them to carry the general thinking. . . . "Provide better service, particularly servicemen; establish a standard pattern for service charges; eliminate cut throat pricing so we can afford to do better work; make oil trucks more appealing to the eye" . . . "How can we compete when the utilities buy the market they want to monopolize; we have a local instance of a builder getting his home heated, and incidentally this house is as big as a church, for a flat price of $200 a season just to create good will for his future business" . . . "In their advertising, gas equipment dealers pay only 25% of the cost; this should be met in fueloil; producers should subsidize oil equipment like the anthracite industry does."

"Dig down for funds to advertise oil. Individual firms must talk, eat, sleep oil. Give both oil and equipment salesmen comparative fuel rates on charts to show the customers, not just to talk about."

At the finish of looking over these many recommendations, only a few of which have been quoted, we are again impressed by the numerous companies who advocate cooperative advertising promotion between oil suppliers and local dealers and this to be done at the local level. Fortunately this is in the works as most of you know.

The Ideal Oil Valve For the PRICE and PROJECT Market



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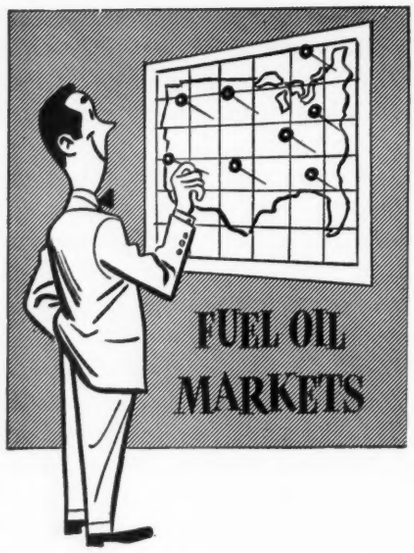

STOCKS of distillate fueloils at refineries, terminals and in transit East of the Rockies continue high and are considerably above comparable figures last year.

At the same time secondary stocks at the end of May—latest available figures—were slightly better than the same date last year. The distillate market, generally, could be characterized as presenting no problem in supply, with prices relatively stable and market demand light.

The only price changes reported in the price table were another slight drop in tank car prices at Minneapolis, the second time in two months, and a .15¢ drop in tank car prices at Charleston, S. C.

Heavy oil prices on the other hand experienced increases of 15¢ per barrel along the East Coast and south to the Gulf Coast ports.

Of interest to oilheating marketers, particularly in the Pacific Northwest, was a July 21 statement of D. P. McDonald, vice-president and general counsel for Westcoast Transmission Co., Ltd. He told the Federal Power Commission that the Canadian government has authorized a western Canadian pipeline company to export up to 125 billion cubic feet of natural gas a year for use in the Pacific Northwest.

McDonald testified that the authorization, which was granted in June, runs for 20 years.

He was appearing in support of an application by Pacific Northwest Pipeline Corp. for permission to import 300 million cubic feet of gas daily from Westcoast Transmission for U. S. Markets.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of July 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.25†	13.9	Richmond	10.45†	13.6
Boston	10.15†	13.8	Charleston, S. C.	10.15†	13.3
Providence	..	..	Chicago	10.7 *	14.1
Springfield, Mass.	..	..	Detroit	11.65*	14.9
Hartford	10.4 †	13.9	Cleveland	11.3 *	13.7
New Haven	10.05†	13.5	Minneapolis	10.25	13.8
Syracuse	11.05†	14.2	St. Louis	10.5 *	13.9
Albany	10.35†	13.6	Indianapolis	11.125*	14.6
New York	10.05†	13.5	Milwaukee	12.0 *	15.0
Newark	..	13.0	Des Moines	..	13.8
Philadelphia	..	12.9	San Francisco	10.45	13.0
Harrisburg	..	..	Portland, Ore.	11.05	13.6
Baltimore	10.05†	13.6	Seattle	10.95	13.6
Wilmington, N. C.	10.15†	13.4	Spokane	13.45	16.0
Washington	..	14.0	Los Angeles	9.95	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
†Subject to .50¢ temp. disc.

Distillate Fueloils

PRIMARY STOCKS* (*Thousands of Barrels*) East of Rockies

	July 8 1955	July 9 1954
East Coast	36,793	31,370
Midwest	32,751	28,510
Gulf Coast	22,475	16,901
Total	92,019	73,224

*American Petroleum Institute.

SECONDARY STOCKS** (*Thousands of Barrels*)

	May 31 1955	May 31 1954
East Coast	6,355	6,000
Midwest	4,557	4,387
Gulf Coast	697	600
Mountain	490	512
Pacific	1,135	1,237
Total	13,234	12,736

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COMPANY_____

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Just as soon as the last remnants of Congress have left town, the Office of Defense Mobilization can be expected to set up the machinery for implementing the provisions for restricting oil imports, contained in the new reciprocal trade law.

It remains to be seen whether or not this machinery is ever used to freeze imports at the 1954 ratio with domestic production as recommended by the Cabinet fuels policy committee.

ODM Director Flemming has asked for $100,000 to hire a staff of economists. He is conferring with the Office of Oil and Gas, Interior Department, on the best way to keep tab on import trends.

Another development likely will be a reconvening of the fuels policy committee to have a look at oil imports.

The reciprocal trade law provides that if oil imports are found to be threatening to impair national security, steps shall be taken to adjust such imports. And these steps could include imposition of import quotas.

Action Against Imports Urged

The ink was hardly dry on President Eisenhower's signature before one group of producers—the Texas Independent Producers & Royalty Owners Association—had formally petitioned the ODM to act under the new law's import provisions.

On the other hand, while Russell B. Brown, counsel for the Independent Petroleum Association of America, believes that imports are "excessive by every accepted standard," he said that a "reasonable time" would be needed to develop the best means of implementing the new law.

Then, Brown said, "positive action" toward a solution should be expected.

Meanwhile, Brown has warned importers that they are now facing their "last opportunity to exercise industrial statesmanship" and urged that each company cut imports by 15% in the third quarter to make room for imports by newcomers into the foreign field.

Oil-state members of Congress have stepped up their clamor for government action against imports, contending that voluntary measures have failed.

But the ODM seems to be taking its time about implementing the new law. And if any excuse is needed, Congress can be blamed for not voting sooner to provide the funds necessary for a staff.

Gulf Answers Import Cut Plea

Sidney Swensrud, Gulf's board chairman, disputed the producers' arguments for government action on imports.

He said the facts indicated that importers generally were complying with the Cabinet committee's recommendation that imports should not exceed "significantly" the 1954 ratio.

Gulf's imports this year, he said, will stay within 1.96% of domestic production, which was the 1954 ratio.

In view of these self-imposed restrictions on imports and U. S. oil consumption running above expectations, Swensrud said it was "difficult to see" how the ODM or the President could conclude that oil imports "are causing such injury to the domestic industry as to threaten the national security."

Citing well drilling and other indices, Swensrud said "the dire consequences of imports which have been so freely predicted in the past in some quarters have just not happened, and to invite federal control under these conditions would be inadvisable to say the least."

In rebuttal, producers said Swansrud "makes no reference to the foreign oil produced by Gulf and sold for importation by other companies."

Pipeline Plans Are Shaping Up

California Standard bombshelled the congressional hearings at Los Angeles with an announcement of pipeline expansion plans that "could" be extended to lay down 220,000 barrels daily of West Texas crude oil on the West Coast in case of an emergency.

The congressmen were studying whether West Coast oil supplies were "adequate" and, if not, was a Texas-California pipeline needed. They had just heard industry leaders testify that a common carrier line—proposed by L. M. Glasco, Dallas—would not be needed in peace or war.

The committee interpreted the announcement as indicating the California Standard thought a line from Texas might be needed in wartime.

Meanwhile, the ODM is nearing a decision on proposals to add about a million barrels daily to Gulf-East Coast pipeline capacity for use in an emergency.

Pending before the ODM is an application by Paul Ryan, New York, for a "certificate of essentiality" for a Gulf-Newark line proposed by American Pipe Line Co., which would make it possible for the Treasury to "guarantee" mortgage bond payments.

Most likely project, however, is the Texas-Eastern Transmission Corp. plan to increase the standby oil-pumping capacity of the Big Inch and Little Inch pipelines bought from the government after World War II and now used for gas. Substitute facilities would be provided to take over the gas load.

Waterway Toll Idea Attacked

Recommendations for the imposition of tolls on inland waterways, sent to Congress by the Hoover Commission, has been attacked by Rep. Holifield, California democrat and member of the commission, as based on a "distortion of facts." Oil constitutes most of the traffic on waterways.

Coal Opposes Imports of Gas

The coal interests are fighting tooth and nail against Pacific Northwest Pipeline's application to import gas from Canada.

Adopting filibuster tactics, representatives of the United Mine Workers have compelled the reading of statements at the Federal Power Commission hearings.

ICC Ducks Residual Rate Probe

Interstate Commerce Commission has declined to investigate the relationship between rates from Montana-Wyoming refineries and Mid-Continent refineries into their common marketing territory—Iowa, Illinois and Wisconsin.

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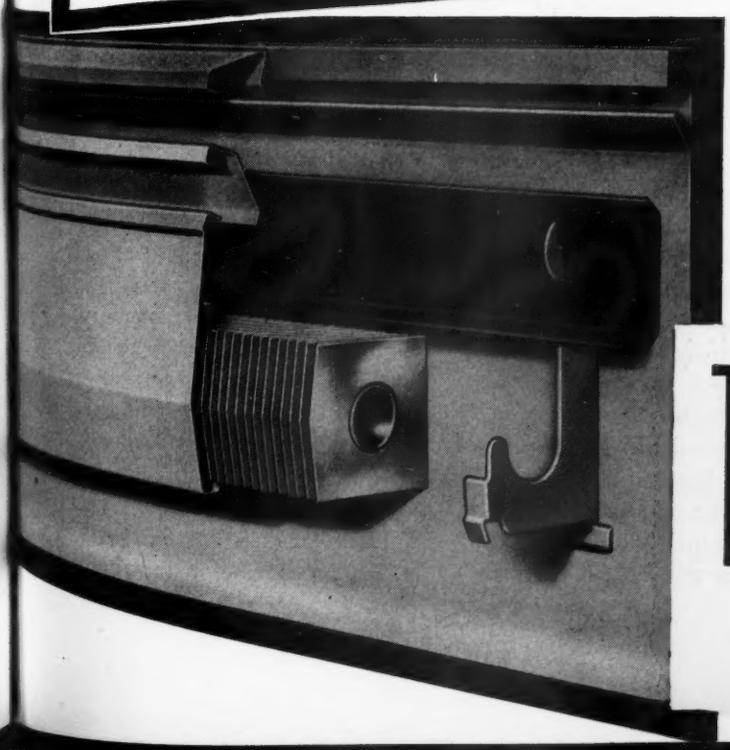

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Oregon

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Standing, left to right: *James A. Coon, Diamond Fuel Co.; Howard J. Smalley, Howard Smalley Co.; newly-elected president, Henry C. Auld, Automatic Heat Co.; Kenneth Gustafson, Gustafson's Fuel Co.*

Not pictured: *John Heilbronner, Fred H. Heilbronner Co.; George Larsen, Larsen Oil Co.; John Saunders, McCall Oil Co.; Oscar Tyler, Mt. Scott Fuel Co.*

OREGON'S dowager Queen of HEATING

Oil Heat Institute of Oregon

Dale Josephson, Executive Secretary

OIL HEAT, Dowager Queen of Oregon's home heating market in recent years, is blossoming out in a glamorous "New Look," determined to give natural gas a real contest for the public's affection when that Jezebel arrives on the competitive scene.

The beauty potion being used in the old gal's rejuvenation has been painstakingly concocted over a period of several months and is comprised of a number of ingredients blended together in a formula designed to insure her reign of supremacy. Responsible for the development and administration of this formula is the Oil Heat Institute of Oregon. The OHI of Oregon is the outgrowth of the Oregon Fuel Merchants Association, a retail fuel dealers organization founded back in 1921-22 about the time oil heat was just getting its foot in the door.

Actually, Oregon's first domestic oilburner installation was made in 1915 in the home of H. R. Alby, Portland's Mayor of the day, according to C. C. Schenck, veteran Portland burner man who was in charge of the installation. It was a Fess spinner type, manually controlled burner designed for fueloil which had to be pumped 100 feet from curb to tank.

It was pretty tough to sell oilheating back in those days, says Schenck, because people felt it was a "crime to bring in California oil when we had so much Oregon wood." Now in his seventieth year, Schenck is still actively engaged in business in Portland.

While no statistics are available on heating fuels prior to 1940, it is known that in the early days of oilheating the majority of Oregon homes were heated with wood. Coal and sawdust followed in that order of preference. No one seems to recall just what the Fuel Merchants Association did back in those early days, but it is strongly suspected by some that its primary function was to provide Pop with a night out.

It was in 1926 that the star of oilheating began to ascend and along with it the personal star of Matty Matheson, for in '26, Matty sold the first large home development project to go exclusively to oil in the city of Portland. At the time, Matty was sales manager for Power Plant Engineering Company and handled Williams Oil-O-Matic, according to his brother John, of Campbell-Norquist Co.

The following year Portland's first heating oil distributor went into busi-

ness, recalls Cliff Arnston, owner of Albina Fuel, Portland's oldest existing fuel company. Prior to that, heating oil was supplied only by major oil companies. In the late '20's, preference for sawdust took an upward trend and continued to climb through the '30's. While the oilheating market also saw substantial growth during that period, it wasn't until 1940 that people began to ask who put the burner in Mrs. Murphy's fuel bin.

The 1940 Federal Census of population and housing provided the first authentic source of statistics on home heating. According to Census tract statistics for Portland, fuel use percentages in 1940 were as follows: Wood 52.3%, Oil 27.4%, Coal or Coke 4.9%, Manufactured Gas 4.9%, Other 10.5%.

The Census also disclosed that 74% of Portland's 108,745 occupied dwelling units had central heating systems and 26% non-central systems. The '40 Census did not cover other markets.

War brings Reorganization

During the '30's, the Fuel Merchants Association functioned spasmodically, its strength and vitality ebbing and flowing depending upon the problems of the day. In 1934 the organization was incorporated only to go defunct about 1937. The critical problems facing the fuel industry during World War II brought about the reorganization of the association and it played a vital part in serving the industry. As with most associations, its activities centered primarily around government relations. It was responsible for the interpretation of government directives to the industry and in turn served as industry spokesman to the various Governmental agencies.

The end of World War II ushered in the hey-day for oilheating. Thousands of families who had moved to Oregon to work in defense industries decided to stay on. They had saved some of their wartime earnings and were able to secure good paying jobs in the region's post war industrial boom. As the many temporary Federal Housing developments closed down, these new permanent residents, along with thousands of returning servicemen and scores of newly-created families, constituted a tremendous new home market. Also, with equipment again available a large conversion and replacement market immediately came into being.

The oilheating industry found itself in an enviable position, with a lack of any real competition from other fuels. Modern technological developments had brought about a tremendous reduction in the availability of wood waste; there was no strong coal producing area near enough to serve the Oregon market economically; electricity had not yet entered the picture and oil's only competitive source of automatic heat, the manufactured gas industry, held expansion plans to a minimum in anticipation of receiving natural gas in the near future.

By 1950, according to the Federal Housing Census, Portland's oilheating market more than doubled the 1940 figure. The 1950 Census shows the following percentages: Oil 57%, Utility & Bottled Gas 11%, Coal 10%, All Others 22%.

Seventy-seven percent of the 131,413 homes were equipped with central heating; 23% with non central heating according to the Census. For the first time, fuel preferences for the entire Oregon market were included in the 1950 Census. Percentages for the State, exclusive of Portland, were as follows: Oil 44%, Wood 37%, Electricity 4%, Coal 4%, Bottled Gas 2%, Utility Gas 4%, Other 5%.

The Census for the State, exclusive of Portland, showed that 22% of the homes had central heating and 78% non central heating.

Change in Name

By 1950, the Fuel Merchants Association had likewise witnessed many changes in its makeup and characteristics. It had become a recognized chapter of OHI; its name was changed to Oregon Heating Industries in order to maintain its identity as an organization serving all fuels while at the same time identifying itself with the Oil Heat Institute through use of the abbreviated form.

With the industry riding the crest of the wave in the early 50's, there was no great concern when natural gas in-

(*Please turn to page* 106)

Switch to - -

LINCOLN

Gas-Fired and Oil-Fired Furnaces and Air Conditioners

COMPLETE LINE
—size ranges from 75,000 to 180,000 B.T.U. output at bonnet.

COMPLETE PACKAGE UNITS
—factory assembled and tested—ready to install.

10 YEAR WARRANTY
—on both the combustion chamber and heat exchanger.

MAXIMUM HEAT TRANSFER
—assured by high efficiency 12 gauge steel heat exchanger.

FULLY U/L APPROVED
—and acceptable by both F.H.A. and V.A.

COMPETITIVELY PRICED
—every unit priced to meet today's competitive market.

Exclusive distributor and dealer franchises are available in certain desirable areas. Inquiries are invited.

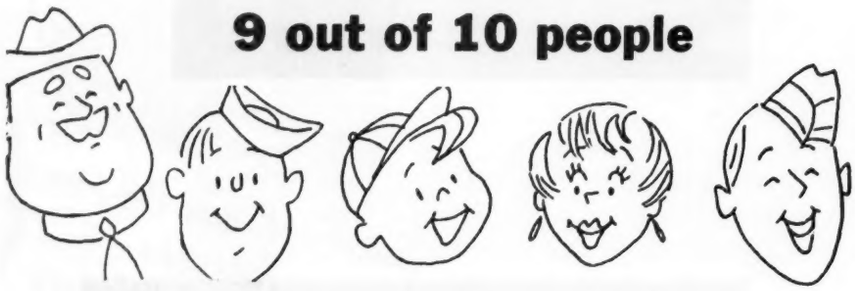
WRITE FOR FULL INFORMATION

LINCOLN FURNACE Co., Inc.

MANUFACTURERS OF GAS & OIL FURNACES AIR CONDITIONERS

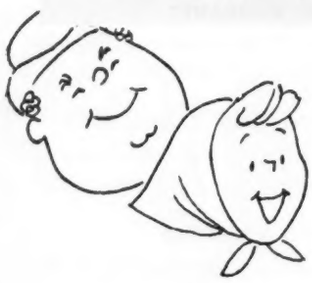
232 Goffle Road • Hawthorne, N. J.

9 out of 10 people



use the 'Yellow Pages'

when they're ready to buy!



Such usage of the 'Yellow Pages' in telephone directories makes them a chief source of buying information in homes, offices and factories all over your community.

So, when you advertise in the 'Yellow Pages' you're putting your sales messages where they will do the most good—*right where prospects look when they're ready to buy!*

If your business could be better, let the 'Yellow Pages' help you make it better.

Advertisers of branded products are using this emblem to tell prospects how to find their dealers.

Why not take a closer look now at the 'Yellow Pages' for promoting your business? Call your local Telephone Business Office for the Classified Directory representative. He'll be glad to help.

Oilburner Show in N. Y.'s Coliseum, June 11-15, 1956

NEW YORK CITY has been selected as the site and June 11 to 15, 1956, have been picked as the dates for the next oilburner show to be sponsored by the Oil-Heat Institute of America. The show will be held in the New York Coliseum, now under construction, where the entire third floor has been reserved.

Floor space available will be about 10% more than that occupied at the last national oilheating show—in Philadelphia during May 1954—so that next year's exposition probably will set a new record for size. Announcements are to be mailed out soon from OHI headquarters to exhibitors at previous shows and other prospective exhibitors, with Institute members getting first preference.

The Show Committee has made preliminary arrangements and plans for the affair are to be formulated at additional committee meetings and also during the next meeting of the board of directors in Atlantic City in September.

There has not been a heating show in New York since just after the war and there has not been an oilburner show there since about 1940.

Requests for information about exhibiting at the show should be directed to Ralph Becker, managing director, Oil-Heat Institute of America, Inc., 500—5th Ave., New York 36, N. Y.

❖

Pulsation study Reports show continued Progress

ANOTHER REPORT by the Pulsation Research Steering Committee and the Technical Advisory Committee on Combustion was released recently at a meeting held at the Battelle Memorial Institute, Columbus, Ohio.

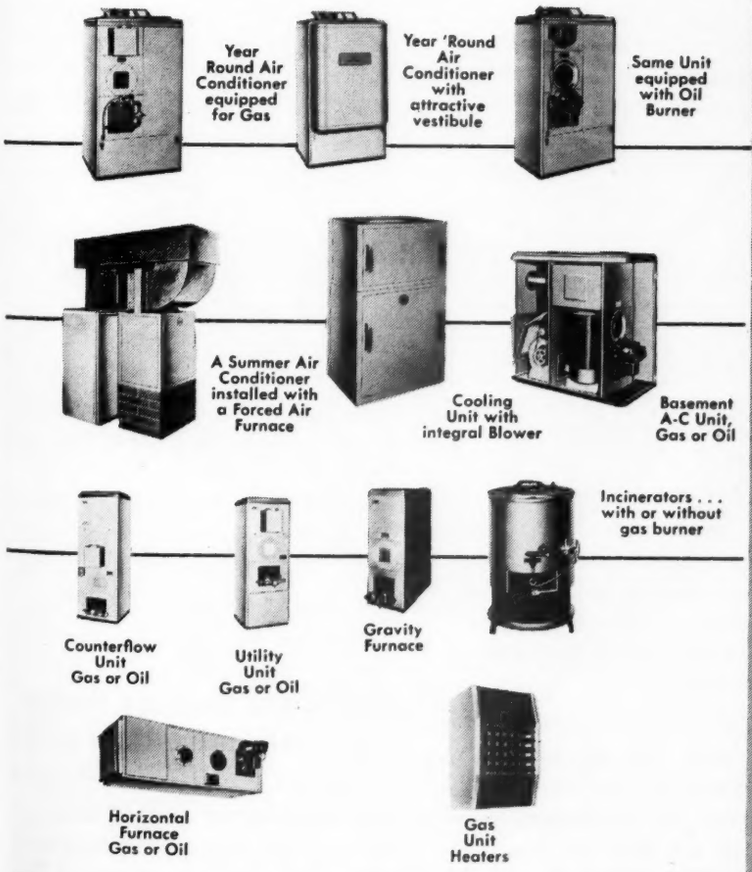
W. R. Dennis, of the Institute, described work completed since the last meeting and showed motion pictures of an oil flame pulsating at 19.8 cps. A 1 gph 45° solid cone nozzle was used and the air-fuel ration was set to 13. The film was shown at around 1/20 of actual speed.

According to Dennis, two separate

Why Experiment-- *it costs money!!*

YOU CAN BE RIGHT THE FIRST TIME

with Luxaire®


Year Round Air Conditioner equipped for Gas
Year 'Round Air Conditioner with attractive vestibule
Same Unit equipped with Oil Burner
A Summer Air Conditioner installed with a Forced Air Furnace
Cooling Unit with integral Blower
Basement A-C Unit, Gas or Oil
Incinerators . . . with or without gas burner
Counterflow Unit Gas or Oil
Utility Unit Gas or Oil
Gravity Furnace
Horizontal Furnace Gas or Oil
Gas Unit Heaters

The largest, most complete line of Heating . . . Cooling . . . Year 'Round Air Conditioning

Ever Available at NEW . . . . . LOW competitive prices

You get what you want — with Luxaire!

Whatever type or size of unit is needed, you can get the *right* Luxaire unit to meet that need.

The price will be competitive, the product excellent — because Luxaire's volume production is also efficient production that saves you money.

And you get the complete package with Luxaire. Whether for heating, cooling or year 'round air conditioning — Luxaire units are complete, compact — and have eye appeal.

For easier installations with trouble-free, customer-satisfying performance, you're *always right* — with Luxaire!

See your Luxaire jobber for your complete heating and air conditioning needs—and for colorful, compelling Luxaire catalogs and mailing pieces that streamline your selling job.

Most Luxaire Units Approved to Burn Either Gas or Oil

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

flames became evident; "the ignition flame, which changed direction considerably, and the cone flame, which moved out of the field of view during oscillations."

The oscilloscope action was calibrated to the sound pressure so that pressure changes could be traced during the oscillations.

Concluding, Dennis showed plots of data for both gas and oil tests which are scheduled to be shown in the third quarterly progress report.

Following lunch, the group visited the laboratory, and observed a prototype combustion system for gas and fueloil firing, although further construction and instrumentation was needed before combustion work could begin. Such systems are expected to provide conditions for improved quality, and to this end, several materials were suggested which might add to the photographic luminosity of gases; these included: sodium chloride vapor, boron, strontium, flock, benzene, and acetylene.

A. A. Putnam, also of the Institute, raised the problem of interaction of room acoustics. An acoustical model study was considered, but the Committee consensus was that such studies should be postponed until a later phase of the project.

The pulsation study is a co-operative venture being conducted at Battelle and sponsored jointly by the ASHAE, AGA and the Oil-Heat Institute.

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Gulf publishes Quarterly for fueloil Distributors

"GULF SOLAR Heat Flame" is the title of a new merchandising publication now being issued by the Gulf Oil Corporation, Pittsburgh, Pa.

Designed to assist retailers of Gulf heating oils with their marketing and advertising plans as well as business management procedures, the new magazine will be published as a quarterly.

Items of technical nature dealing with the latest improvements in fueloil, fuel tanks and burners developed by Gulf personnel, as well as information on the various grades of Gulf fueloil are included in the publication.

Lennox to convert Vanity into airconditioning Sales

LENNOX FURNACE CO., Marshalltown, Ia., is using woman's desire to appear her best to sell year-round airconditioning. A full page advertisement in *Vogue* magazine, a leading publication in the beauty fashion group, developed this ambition.

This was the first airconditioning ad to appear in the magazine and the copy stressed, "There's beauty in the air of a Lennox airconditioned home." It told the reader that her appearance takes on new radiance, her personality a new glow—when the home is airconditioned.

J. R. Merrill, advertising manager, explained the thinking back of the campaign: "Generally speaking, it's not difficult to sell airconditioning to a man who works in a hot, stuffy office all day. On the other hand, there is still considerable opposition to airconditioning among women. By illustrating the important beauty benefit, which women clearly understand—and appreciate—we hope to overcome a great deal of the opposition."

Lennox didn't just step into the beauty business without some study. Material was collected from scientists and medical men showing that health and climate are inextricably mixed—and beauty is the mirror of good health.

The effects of temperature and humidity on plants, fruits and vegetables are no secret. It took science, though, to discover just how much correcting nature's climate lapses with central, year-'round airconditioning can do for a woman's beauty.

Lennox stresses year-'round, central airconditioning. It's not enough to have hot houses in the winter, or cold houses in the summer. Controlled indoor climate is a must all 12 months, so that the moisture and heat conditions in the home don't vary. It's the change in climate that does the damage to complexions.

One dermatologist reported treating dozens of women whose skin had become dry and wrinkled in a matter of months when they moved from one climate to another. English and Irish women are famous for their complexions, yet when they come to this country the skin becomes dry and flaky.

In winter, hot furnace air—undiluted by some sort of moisture control—dries out the skin. Dermatologists regard winter as a boom season for women patients.

Conversely excessive humidity acts as a weight on the pores of the skin and glands through which one perspires. With a great deal of dampness in the air, perspiration hasn't a chance to evaporate and anything from ulcerated skin to prickly heat may develop.

Lennox has prepared a free booklet for consumer use called "The Air We Live In?" It goes into more detail substantiating the claims made in the advertising campaign.

❖

Cunard takes over fueloil Business from Superline

S. CUNARD & CO., LTD., Halifax, Canada, recently purchased Superline Oils' fueloil and oilburners business. About 500 fueloil accounts and a half million gallons of oil are involved in the transaction.

Cunard is the oldest Halifax firm in the heating field and was established 128 years ago. E. L. McDonald, Jr., is manager of the Oil Division.

❖

Milwaukee Journal Survey shows oilheating Gain in '55

ACCORDING to the 1955 *Milwaukee Journal* Consumer Analysis there are now 119,907 homes in the Milwaukee (Wisc.) area heated with fueloil. This is an increase over last year when 94,789 homes were reported as heated with oil.

Oil has 40.4% of the total heating market, as compared with 34.2% last year. Gas has gained very slightly with

For positive

"MOISTURE PROOFED" Ignition

use SUPER

IGNITION TRANSFORMERS

AVAILABLE IN ALL CYCLES

From conception to completed product SUPER Ignition Transformers are planned for long lasting dependable service... Produced with the knowledge and skills of one of the world's largest oil burner transformer manufacturers.

CHECK THESE SUPER FEATURES:

- *Unconditionally guaranteed for 2 years.*
- *Built to standard and custom specifications.*
- *Exclusive radio and TV shielding effectively screens out static.*
- *A mounting base for every oil burner.*
- *Specially treated water repellent terminals.*

OHI

Underwriters' Laboratory and Canadian Standard Approval

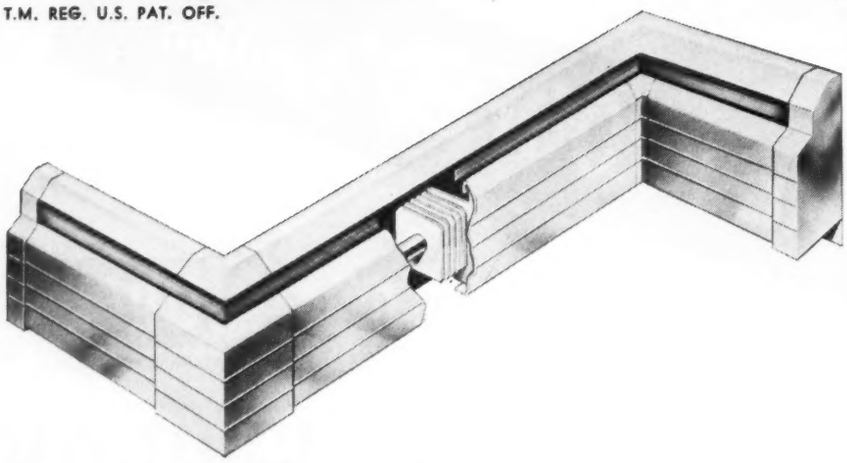
For trouble-free service—and prices far lower than you would expect for such outstanding quality, *SEND YOUR REQUIREMENT NOW to—*

UNION ELECTRIC and MANUFACTURING CO.

1057 SUMMIT AVE. • JERSEY CITY 7, N. J.

Get the full story on Low-Cost radiant-ray BRAND Baseboard Heating

T.M. REG. U.S. PAT. OFF.



the Most Beautiful Baseboard in America

LOW IN COST

You'll find the new low prices of Radiant-Ray (with UAF*) make it easy for you to compete successfully on every type of residential job—small and large homes, and tightly-budgeted projects. Radiant-Ray is rated and priced to help you sell in volume.

EASY TO INSTALL

You'll actually make more money installing Radiant-Ray than conventional-type baseboard, because of the basic design of this modern radiation. The elements, enclosure, corner and end pieces are designed to be fitted together quickly and snugly.

BEAUTIFUL APPEARANCE

The sweeping horizontal lines of Radiant-Ray actually make the room seem longer and wider. Its subtle, unobtrusive design fits equally well into a traditional or modern setting. Highly praised by architects and decorators, the clean, beautiful design of Radiant-Ray is an important plus-factor in the sale.

TOP PERFORMANCE

IBR-rated, Radiant-Ray is unusually efficient, has a high rating per lineal foot. Design insures that walls will stay free of dirt patterns. Curtains and drapes may safely be hung directly over this radiation. Air turbulence is minimized.

*Unrestricted Air Flow.

TESTED & APPROVED UNDER I·B·R

REG. U. S. PAT. OFF.
BASEBOARD RATING CODE

FREE!

Easy Estimator booklet shows quick, simple method for estimating and installing Radiant-Ray. Contains booklet of tables showing IBR Approved Ratings, handy radiation calculation sheets, cost sheets, product illustrations and prices, and layout of series loop system. A valuable guide. Thousands in use.

RADIANT-RAY
RADIATION INC.

radiant-ray BRAND

Please send me your "EASY ESTIMATOR" free of charge, and full information on Radiant-Ray baseboard Heating.

Name .....

Company .....

Street .....

City ..... Zone ..... State .....

70,935 homes heated with gas or 23.9% of the market. In 1954 gas heated 23.2% of the homes. Coal or coke has dropped to 36% from 43% last year.

Nearly 10% of the families in the greater Milwaukee area plan to buy or build a home in the near future. Of these 45.7% plan a home in the $10,000 to $15,000 range, while 33% expect to spend between $15,000 to $20,000.

❖

Oil-fired boiler Standards are issued by Underwriters

THE JUNE 1955 EDITION of Underwriters' Laboratories' standards for oil-fired boilers has been issued. It is contemplated that conformance to this standard will be required of all boiler assemblies labeled after July 15, 1956.

The requirements included are substantially the same as those submitted to manufacturers under the date of February 10, 1953. Additional copies of the Standard are available from Underwriters' Laboratories.

❖

Airconditioning paces Gains in newspaper Advertising

WITH A PERCENTAGE gain of 78.5 airconditioning advertisers boosted housing equipment advertising in newspapers to an all time high in 1954. Total investment for 1954 places the housing equipment industry sixth in ranking among the 23 national newspaper classifications.

Dollar-wise, furniture and furnishings advertisers invested $10,895,000 in newspapers—an increase of 3.3%. Airconditioning represented $2,329,000 of this amount; heaters and stoves, $1,455,000; automatic heating, $867,000; and fuel $687,000.

Media Records' 110 Cities ad lineage trends for the first three months of 1955 indicate that housing equipment advertisers may go well beyond 1954's record. Lineage gains for the first three months were registered by airconditioning, up 78.8%; automatic heating, up 147.8%; automatic refrigeration, up 10.9%; and heaters and stoves, up 18.4%.

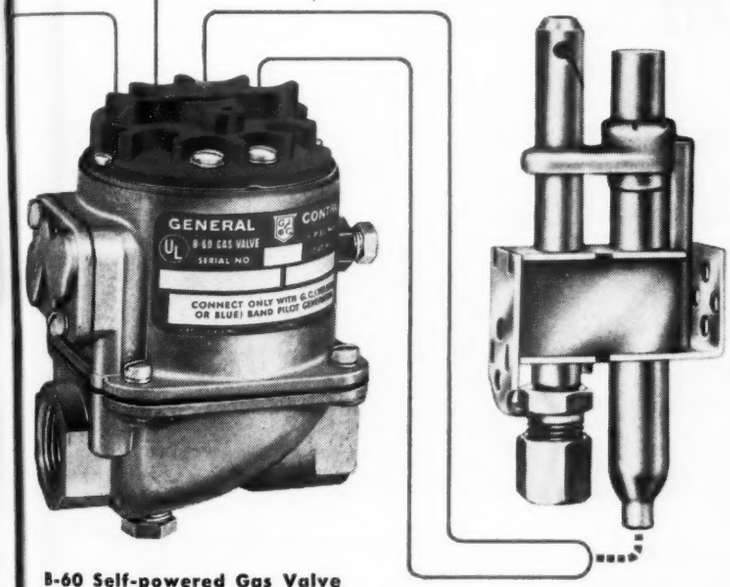
by feature, point by point...

famous B-60 is the best

gas control system money can buy!

The original...first and still foremost...

B-60 self-powered gas control system



B-60 Self-powered Gas Valve operates silently from power supplied by pilot; provides gas in response to thermostat and automatically shuts off for safety if pilot goes out. Space-saving, multipoised models available.

PG-9 "Snorkel" Pilot Generator—does triple duty: eliminates lint problems, provides blue-flame ignition, and generates 700 millivolt power to operate entire control system.

No outside current required! No power-failure service calls! Quiet operation with accurate temperature control and positive safety! These are the performance features which electrified the heating industry with the introduction of the revolutionary B-60 Control System 15 years ago. And today—proved by hundreds of thousands of trouble-free applications ... the famous General Controls B-60 system with its 700 millivolt pilot generator still fits by far the greatest range of applications—still stands *first and foremost* in the heat control field!

General Controls outstanding B-60 control system is custom-matched to the famous line of General Controls room thermostats... distinguished alike for their style and performance... available in mercury, snap-action, and thermopoised designs for accurate, straight-line temperature control. Your best guarantee of customer satisfaction.

GENERAL CONTROLS

MANUFACTURERS OF AUTOMATIC CONTROLS FOR HOME, INDUSTRY AND THE MILITARY

GENERAL CONTROLS • PERFEX CONTROLS

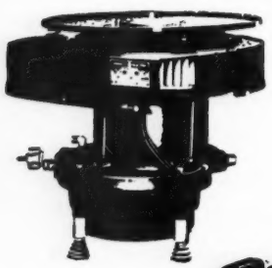
40 FACTORY BRANCH OFFICES SERVING THE UNITED STATES AND CANADA

FIVE PLANTS: IRON MOUNTAIN, MICHIGAN • GLENDALE, CALIFORNIA • BURBANK, CALIFORNIA • SKOKIE, ILLINOIS • GUELPH, CANADA

WE'RE GETTING the G. E. BUSINESS

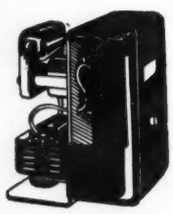
(And it's nice business too)

BECAUSE WE'RE USING SID HARVEY'S REBUILT REPLACEMENT PARTS



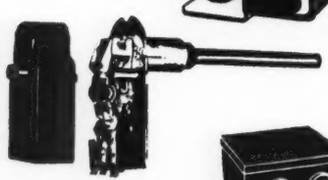
EXACT REPLACEMENT

No fuss, no changes, Sid Harvey Rebuilt Replacement Parts fit exactly. G.E. jobs are as easy as any other.



IMMEDIATE EXCHANGES

No waiting, no delay, you get the part you want, when you want it and as you want it.



COST IS LESS

Profit is greater because Sid Harvey's Rebuilt Parts cost about half that of new, on Exchange . . . Yet fully guaranteed.

MORE BUSINESS

Every satisfied customer is a prospective oil customer too. Don't pass 'em up. Get the business. You can.

G.E. SERVICE HAND BOOK $1.75

Now 37 Sid Harvey Stores

SID HARVEY INC.
VALLEY STREAM, NEW YORK

June building Awards reach record High, Dodge reports

CONTRACT AWARDS for future construction in the 37 states east of the Rockies for June are up 30% over the same period for last year, according to the most recent report released by the F. W. Dodge Corp.

The highest June figure in Dodge's history, the grand total ran at $2,255,209,000, which in turn pushed the first six months' total up to $11,982,771,000, a new high and also up 30% over the first six months of last year.

Indicating a high rate of construction expenditures for the remaining months of 1955, residential building contracts in dollars were $5,456,730,000, or 37% ahead of the first half of 1954; non-residential building contracts were $4,132,513,000, better than 20% up, and heavy engineering projects were $2,393,528,000, or 29% ahead.

Individual June awards were as follows: non-residential, $842,618,000, up 28% over June, 1954; residential, $951,104,000, up 32% over June, 1954; heavy engineering, $461,487,000, up 29%.

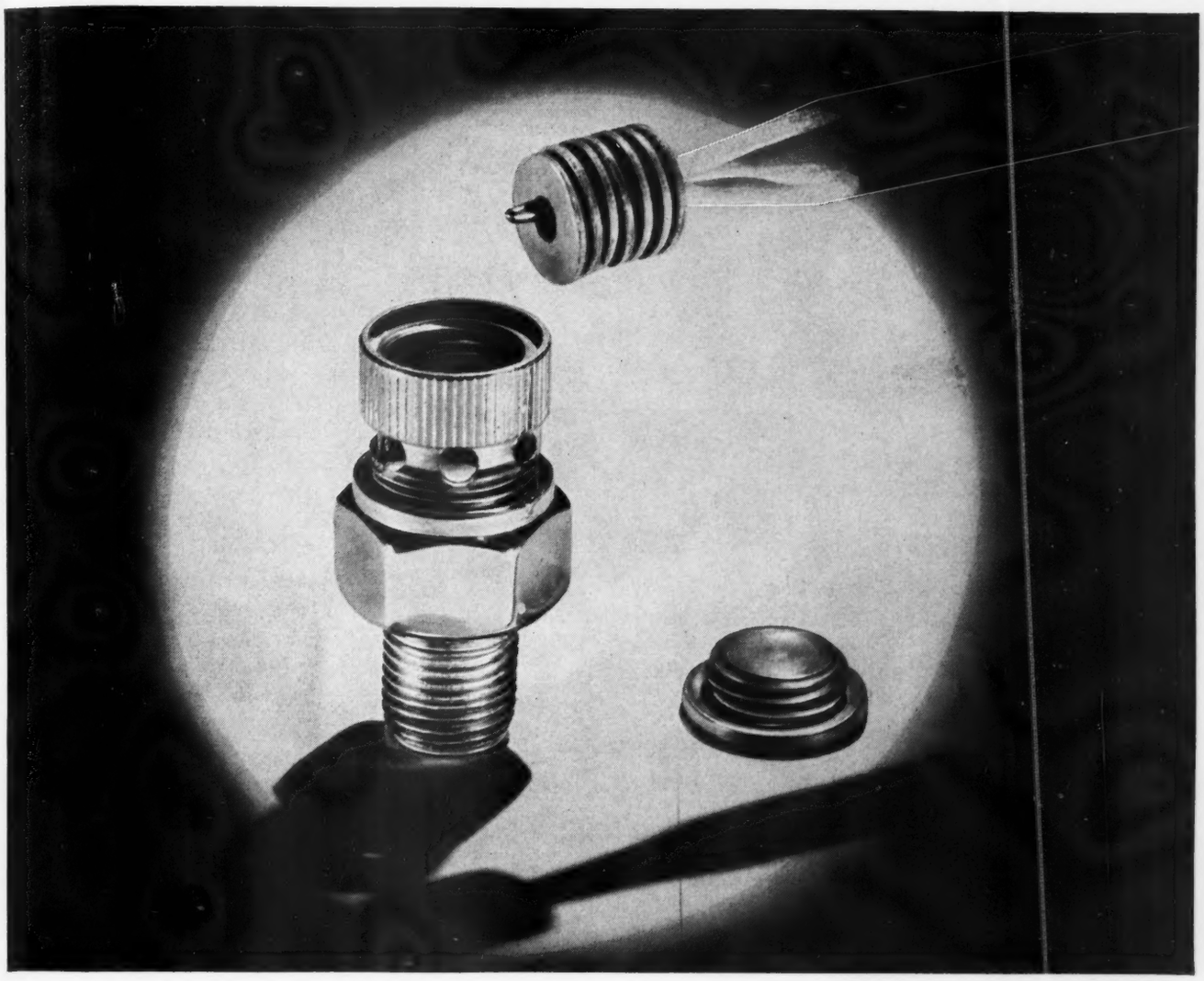
❖

Michigan Study surveys farm petroleum Market

THE MICHIGAN farm petroleum market, a study prepared by Capper-Harman-Slocum, Inc., Cleveland 14, Ohio, publishers of the *Michigan Farmer,* is a survey of fuel usage planned by the Marketing Research Committee of the American Petroleum Institute. The studies were conducted on a nation-wide scale with the co-operation of state and regional farm publications.

The Michigan project, which employed questionnaires mailed to names on the magazine's regular subscription list, discovered that 61.6% of the farm families in the state heat their homes with furnaces; 41.2% reported heating stoves, space or circulating heaters and 0.7% used other equipment.

The same families reported that 81.7% of them use coal or wood for heating fuel when furnaces are used; 26.1% use fueloil; 3.9% use LP gas; 0.2% use other fuels. With space heat-



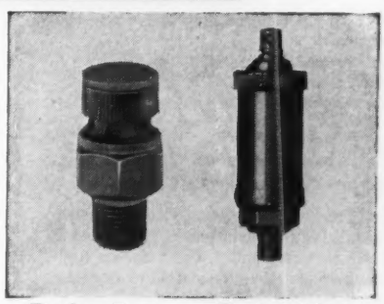
You can replace discs in Dunham Air Vents ... without draining the system!

With Dunham Expansion Type Air Vents in hot water systems, you *don't have to drain the system* to replace discs clogged with boiler seal or sediment. What's more . . . you're replacing discs only—not entire vents!

You just unscrew the disc body, then the vent cap and remove the clogged discs with a pencil. Dunham's integral ball check valve closes the vent opening and keeps water from escaping through vent holes while you replace the discs.

Dunham Expansion Type Air Vents operate horizontally or vertically . . . automatically vent air from convectors, baseboard, finned pipe, radiators—even from high points in mains and branches. Can be operated manually to assure rapid air removal when system is first filled.

For full information on Dunham Vents—or on other items in our *new and complete* hot water line—clip and mail the coupon.



Dunham Expansion Type Vent Working pressure: 35 p.s.i.

Dunham Float Type Vent Working pressure: 50 p.s.i.

DUNHAM HOT WATER HEATING

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

QUALITY FIRST FOR OVER FIFTY YEARS

C. A. DUNHAM COMPANY • CHICAGO • TORONTO • LONDON

C. A. DUNHAM COMPANY
Dept. FOH-8, 400 W. Madison St.
Chicago 6, Illinois
Send complete Hot Water Line literature.

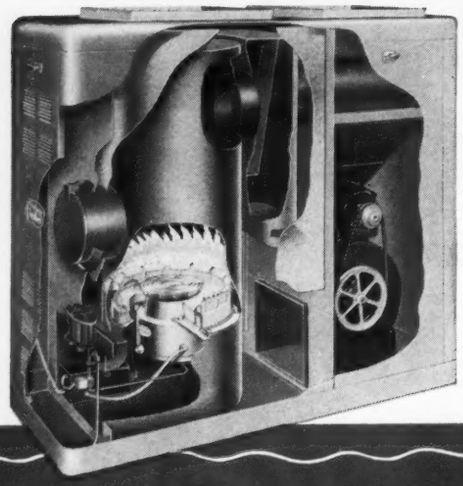
Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

Fueloil & oilheat



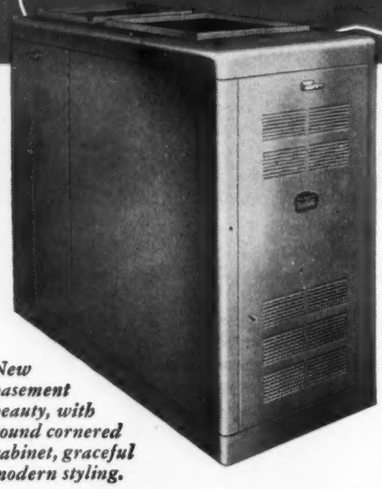
Cutaway view of new TORIDHEET Model ORA oil-fired winter air conditioner.

Announcing...

A Great New Line of Whisper-Quiet

TORIDHEET

Wall Flame Oil Furnaces



New basement beauty, with round cornered cabinet, graceful modern styling.

TORIDHEET'S new line of winter air-conditioning units now available in *four* sizes with bonnet ratings of 85,000; 105,000; 130,000 and 155,000—enough range to cover *all* your prospective buyers—from the very small to very large homes.

Features of the new models include: (1) better looking *totally enclosed* unit, (2) positive control of oil flow, (3) positive fuel shut-off between constant level valve and burner, (4) new design heat exchanger and radiator for even greater efficiency.

Proven fuel economy (up to 40% savings), the result of TORIDHEET'S 31 years of research and development of wall-flame combustion, makes TORIDHEET a profitable line for you to sell—a profitable line for your customer to buy.

Complete Units or Conversion Burners—Gas or Oil

Wall Flame Oil Burners • Gun Burners • Wall Flame Boilers, Furnace and Water Heaters • Gun Fired Boilers and Furnaces • Gas Conversion Burners and Gas Fired Furnaces • Low-Boys • Hi-Boys • Counterflows

Some desirable dealer franchises available —your inquiry is invited.

CLEVELAND Toridheet AUTOMATIC HEATING

Toridheet Division
CLEVELAND STEEL PRODUCTS CORPORATION
16031 Brookpark Road • Cleveland 11, Ohio

Affiliated Canadian Manufacturer: Aero Tool Works Limited, Toronto, Ontario

ers, coal or wood is used by 62.9% of the families; fueloil by 54.5%; gas by 4.4%; electricity by 3.7% and other fuels by 2.6%.

Electricity is the preferred fuel for water heaters, 63.6% of the families reporting they have electric water heaters in their homes. Other fuels mentioned: Fueloil, 13.8%; all types of gas, 11.5%; coal or wood, 11.8%.

Electric water heaters show up even higher in the reports of water heaters in the barn or other outbuildings. Here 91.7% of the families who have such units reported they use electricity; fueloil, 3.6%; gas, 3.3%; coal or wood, 1.4%.

Stock tank heaters, where reported, use coal or wood for fuel in 39.7% of the cases, electricity in 29.2%, fueloil in 29.7% and LP gas in 1.4%.

Fueloil storage on Michigan farms is greatest in the 151 to 400 gal. category, 49.2% of those families with fueloil storage tanks reporting they had this capacity. At the same time, 22.5% indicated their fueloil storage ranged from 71 to 150 gals.; 10.7% from 41 to 70 gals.; 1.4% for both the 21 to 40 and 0 to 40 gal. bracket. Larger tanks were reported: 9.6% of the families said their storage capacity was from 401 to 700 gals. and 4.8% reported tanks larger than 700 gals.

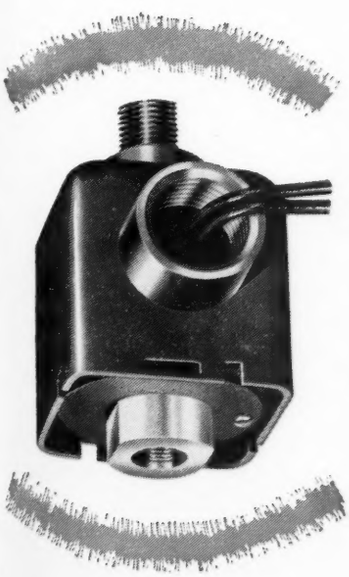
Troy Oil Co. celebrates twenty-fifth Anniversary

CELEBRATION of the Silver Anniversary of the founding of the Troy Oil Co., Inc., Indianapolis, Ind., was held recently at the Lake Shore Country Club and included a golf tournament, cocktail party, buffet dinner and prizes.

Attending the observance of the 25-year-old organization's birthday were executives from the Tide-Water Associated Oil Co., Seiberling Rubber, Auto-Lite and DuPont companies, as well as representative oilmen, business leaders and distinguished citizens.

Troy's officers include Frank J. Schuster, president; Francis J. Schuster, vice president; and Paul J. Kritsch, secretary-treasurer.

All This and Money, too!



• Make your customers happier and make money in the process by installing a DELAYTROL on every clean-up job this summer. The extra profit on the DELAYTROL installation turns the summer clean-up into a really profitable operation. And you'll prevent those bothersome and expensive complaint calls next fall.

For DELAYTROL eliminates several of the principal causes of customer complaint. DELAYTROL *delays the flow of oil when starting* until sufficient air for proper combustion is available. On stops, DELAYTROL *cuts off oil instantly.* This eliminates smoke, odor, flutter, rumble, or noise on starts and stops.

In addition, it saves the customer up to 15% on his fuel oil bill by preventing carbon deposits on the inside of the furnace.

DELAYTROL is a cinch to install at any time. And when you've disconnected the nozzle line on your clean-up jobs you've got the job almost done.

See your heating equipment wholesaler for further details on DELAYTROL, or write today to Dept. DT.

WEBSTER ELECTRIC
RACINE WISCONSIN

Manufacturers of fuel-units, ignition transformers and DELAYTROLS

MORE FEATURES TO TALK ABOUT, OF COURSE.....

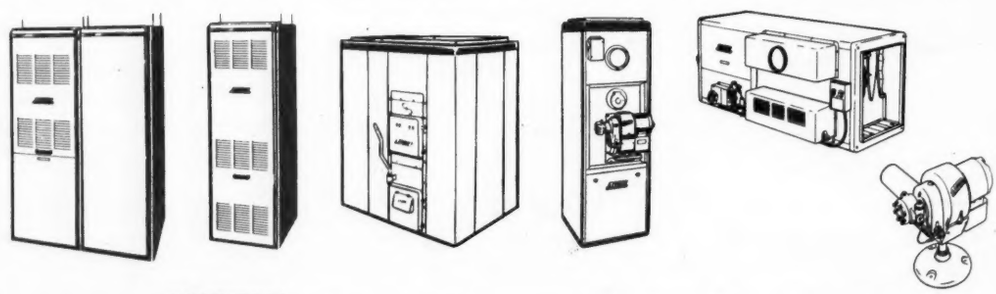
LENNOX® no. 1

THIS FAMOUS LENNOX DEALER POLICY IS DESIGNED TO BUILD YOUR SALES AND PROFITS

Lennox is first in so many things . . . always 'way ahead of competition. Feature for feature, point for point, you have more to offer when you sell Lennox. But that's only part of the reason it pays to handle the No. 1 line; this dealer policy helps make *yours* the No. 1 name locally:

- **The finest products in the industry . . . the most complete line to sell.**
- **A product warranty that assures customer satisfaction . . . far more liberal than is common in the industry.**
- **The finest, most complete sales and service training program . . . teaches your men the latest techniques to increase your sales volume.**
- **Proven new-business development ideas . . . real, two-fisted selling tools . . . to get extra heating and air conditioning sales.**
- **A special, tailor-made promotion kit to help *your* builders sell more houses.**
- **Nationwide branch office engineering service that places expert heating and air conditioning technicians at *your* disposal — whenever and wherever you need them.**
- **Largest consistent advertising program . . . tells your prospects about your products and services.**

UP-FLO, DOWN-FLO, HORIZONTAL-FLO . . . GAS, OIL, COAL . . . OVER 100 MODELS



. . . and ***LENNOX*** *offers you the most complete line of central home air conditioners, too. Air-cooled and water-cooled models.*

...UT IT'S THE DEALER POLICY THAT MAKES

...in warm air heating

- **HEAT EXCHANGER**—Made of steel—no hot spots or cold spots . . . can't leak—ever. Specially designed to give more heat from less fuel. Exclusive "silent seal" permits heat exchanger expansion without noise or metal fatigue.
- **SILENT "FLOATING" BLOWER**—Motor, blower wheel and drive are anchored to rigid U-shape steel frame . . . cushioned on rubber to completely isolate all mechanical vibrations.
- **HAMMOCK FILTER**—Twice the normal air cleaning capacity . . . tight edge seal . . . less frequent, less costly filter replacement! Another Lennox exclusive!
- **MELLOW WARMTH CONTROL**—Super-Sensitive . . . provides short, frequent burner cycles . . . maintains even room temperature—greater comfort.

*in warm air heating, more families buy **LENNOX** than any other make*

...E LENNOX FURNACE COMPANY

Leaders in home comfort for 60 years

...ttown, Iowa • Columbus, Ohio • Syracuse, N. Y. • Fort Worth, Texas
...Lake City, Utah • Los Angeles, Calif. • Decatur, Ga. • Des Moines, Iowa
In Canada: Toronto and Calgary

CLIP AND MAIL TODAY!

(Address your nearest branch. See locations at left.)

All right — send me information on how the Lennox Dealer Policy can help me make more money. No obligation on my part.

COMPANY NAME_____

ADDRESS_____

CITY_____ STATE_____

MY NAME_____

Fast!... Safe!... Automatic!...

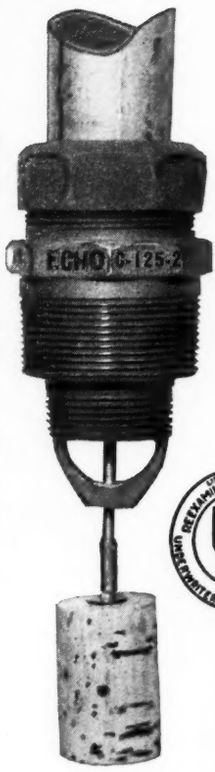
*50% LESS INVENTORY
•
INSTALLED EASIER
•
FILLS FASTER
•
LOWER COST
•
FOOLPROOF

ECHO VENT SIGNAL

Patented in Canada — U.S. Patent Pending

Model "A"—(for threaded connections)—A one-piece Reducing Bushing and Vent Signal combined. Each signal designed to fit two openings. Made of high grade grey-iron casting, rustproofed and attractively finished. Sizes for all requirements. Easy to install.

Model "C"—(for non-threaded connections)—A leakproof Compression fitting combined with a one-piece Reducing Bushing and Vent Signal. Compression fitting consists of Nut, Oilproofed Rubber Gasket and dome-shaped Steel Washer. Made of high grade grey iron casting, rustproofed and attractively finished. Sizes for all requirements. Simple and easy to install . . . use only a wrench.



SAFE FUEL OIL LEVEL

PRE-SET PERMANENTLY AT FACTORY

MODELS FOR EVERY TANK — OLD OR NEW

MODEL "A"
* TWO-IN-ONE FITTING

This device whistles while tank is being filled. When tank is full whistle automatically shuts off. It is — positively foolproof — unconditionally guaranteed against defective workmanship and materials.

MODEL "C'
* TWO-IN-ONE FITTING

A. B. CARLSON & COMPANY INC.

349 WOODLAWN AVE. MANUFACTURERS OF THE POPULAR ECHO—OIL BURNER ACCESSORIES **AURORA 6, ILL.**

Licensed for Manufacture Under Scully Patents Nos. 2, 143, 706 and Reissue No. 22,391.

State Breakdown shows gas Heating by States

GAS-FIRED CENTRAL HEATING sales rose 18.4% during 1954, while units operating were up 15.7% according to estimates made in the June and July issues of GAS HEAT magazine. Sales totaled 947,195 for gas-fired central heating equipment, and units in operation reached the figure of 6,947,500 as of January 1, 1955.

Sales of gas conversion burners totaled 223,550, up 11.6% for the U. S. as a whole; gas furnaces 652,530, up 26%; and gas boilers 71,115, down 13.3% under 1953.

Gas conversion burners in operation now total 2,295,800, an increase of 9.88%; gas furnace units were 4,044,600, a gain of 17.4%, while gas boiler units reached 607,100, or a rise of 11.7% during the last year.

Breakdown, by states and types, of gas central heating units in use as of January 1, 1955, are as follows:

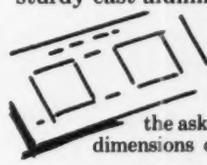
Central Gas Heating Units Operating Jan. 1, 1955

	Conversion Burners	*Furnace Units*	*Boiler Units*	*Total Central*
Maine	545	1,875	195	2,615
New Hampshire	1,980	3,900	415	6,295
Vermont	150	1,000	65	1,215
Massachusetts	31,095	28,750	11,430	71,275
Rhode Island	1,515	2,365	705	4,585
Connecticut	7,690	8,375	3,190	19,255
NEW ENGLAND	42,975	46,265	16,000	105,240
New York	263,305	209,835	55,675	528,815
New Jersey	55,685	108,920	41,705	206,310
Pennsylvania	146,305	308,040	102,800	557,145
Delaware	925	4,430	1,550	6,905
Maryland	30,420	84,685	13,325	128,430
District of Columbia	10,020	34,655	10,555	55,230
CENTRAL ATLANTIC	506,660	750,565	225,610	1,482,835
Virginia	14,210	37,125	11,940	63,275
West Virginia	17,670	35,575	4,025	57,270
North Carolina	4,560	14,735	1,435	20,730
South Carolina	1,415	4,360	445	6,220
Georgia	21,290	54,815	5,415	81,520
Florida	3,360	17,145	995	21,500
SOUTH ATLANTIC	62,505	163,755	24,255	250,515
Michigan	139,310	170,295	20,495	330,100
Ohio	282,425	466,070	50,420	798,915
Indiana	96,555	107,205	13,005	216,765
Illinois	280,640	284,985	52,430	618,055
Wisconsin	47,735	75,480	7,490	130,705
Minnesota	107,715	112,060	15,325	235,100
Iowa	68,545	97,530	8,595	174,670
Missouri	68,970	170,635	14,975	254,580
Kansas	39,730	92,595	10,130	142,455
Nebraska	45,530	67,635	5,815	118,980
North Dakota	3,880	9,590	1,075	14,545
South Dakota	7,025	14,090	1,395	22,510
NORTH CENTRAL	1,188,060	1,668,170	201,150	3,057,380
Kentucky	28,615	55,100	5,695	89,410
Tennessee	18,210	47,650	4,865	70,725
Alabama	18,240	32,680	3,065	53,985
Mississippi	6,985	17,220	2,190	26,395
Arkansas	8,715	24,695	2,555	35,965
Louisiana	13,210	48,575	4,625	66,410
Oklahoma	21,920	66,515	6,375	94,810
Texas	39,440	224,470	15,455	279,365
SOUTH CENTRAL	155,335	516,905	44,825	717,065
Montana	9,200	20,350	3,360	32,910
Idaho	425	2,130	30	2,585
Wyoming	5,566	10,910	1,450	17,925
Colorado	41,940	107,670	9,265	158,875
New Mexico	7,370	27,320	2,210	36,900
Arizona	8,080	48,600	2,700	59,380
Utah	22,050	47,835	3,065	72,950
Nevada	595	3,310	245	4,150
MOUNTAIN	95,225	268,125	22,325	385,675
Washington	1,760	11,100	905	13,765
Oregon	3,990	8,720	835	13,545
California	239,290	610,995	71,195	921,480
PACIFIC	245,040	630,815	72,935	948,790
UNITED STATES	2,295,800	4,044,600	607,100	6,947,500

You'll land more big-profit commercial jobs when you can talk about the owner-appeal values of the two biggest Mt. Hawley Oil Burners... and at a price up to 20% lower than competitive models of similar capacity. And you can handle any job from 5 gph. to 20 gph. with the Mt. Hawley G-6B or G-8.

SELL BY POINTING OUT:

rugged Marathon motor (½ h.p. on G-8)
big capacity Sundstrand pump
efficient, safe dual nozzle and ignition system
whisper-quiet operation through close-tolerance machining of all parts
sturdy cast aluminum housing



FREE! Get combustion chamber layouts for the asking. Send ratings and dimensions of boiler to be used.

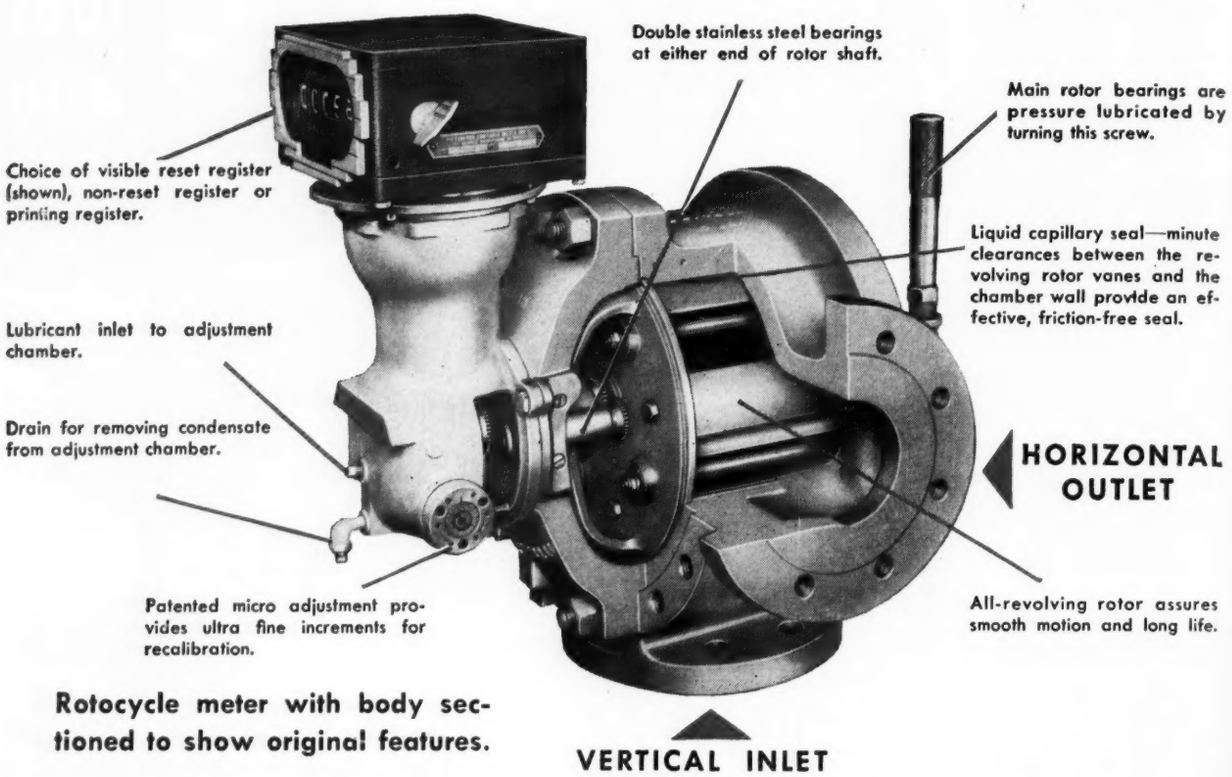
MT. HAWLEY MFG. CO., PEORIA, ILLINOIS

MT. HAWLEY MFG. CO.
Dept. F-8, Routes 88 and 174, Peoria, Ill.
I want to know all about your G-6B and G-8 oil burners. Rush facts at no obligation.

Name_____
Firm_____
Address_____
City_____ State_____

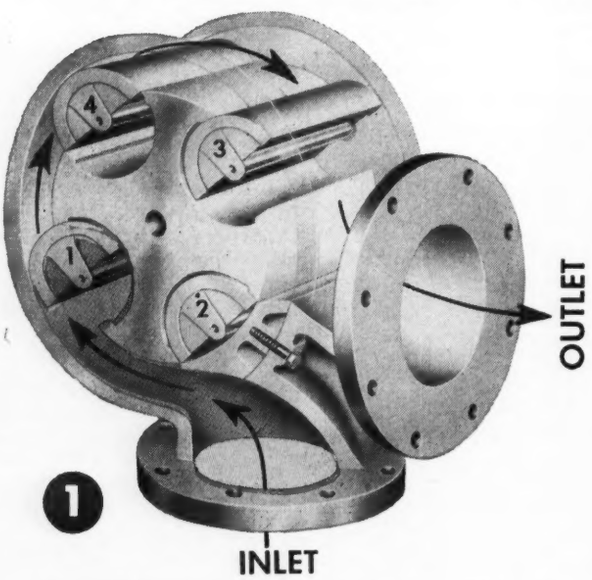
What goes on inside

There's An All-Revolving Mechanism With Liquid Capillary

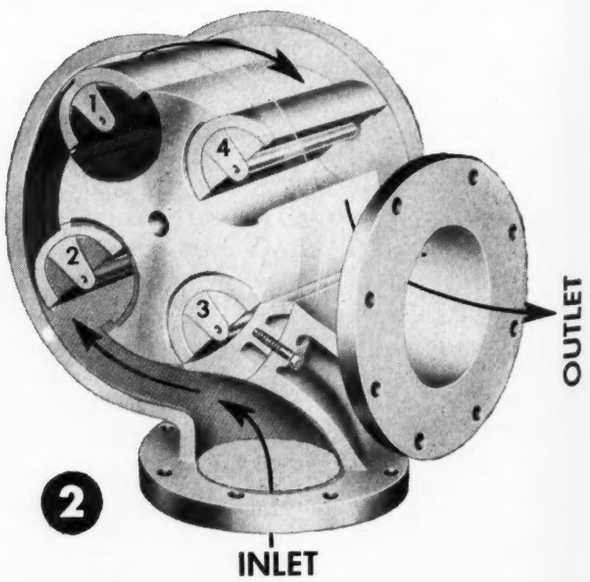

Double stainless steel bearings at either end of rotor shaft.
Main rotor bearings are pressure lubricated by turning this screw.
Choice of visible reset register (shown), non-reset register or printing register.
Liquid capillary seal—minute clearances between the revolving rotor vanes and the chamber wall provide an effective, friction-free seal.
Lubricant inlet to adjustment chamber.
Drain for removing condensate from adjustment chamber.
HORIZONTAL OUTLET
Patented micro adjustment provides ultra fine increments for recalibration.
All-revolving rotor assures smooth motion and long life.
VERTICAL INLET

Rotocycle meter with body sectioned to show original features.

FOLLOW THE ROTOCYCLE



ROTOR POSITION I: Liquid entering the measuring chamber through the inlet port encounters vane No. (1) which seals off further liquid progress. The seal is by liquid capillary action. There are no metal-to-metal contacts between the vanes and the side wall of the measuring chamber.



ROTOR POSITION II: Pressure under vane No. (1) forces the rotor to turn on its centershaft. Vane No. 2 has now reached position occupied by vane No. 1 where it forms a capillary seal with the wall. Segregated between vanes (1) and (2) is a definite volume of liquid indicated in dark color.

Rockwell *Rotocycle* Meters?

Seals Turning On Stainless Steel Ball Bearing Mounts

The Finest Engineering and Construction for Accurate, Long Lasting Measurement!

Rockwell
ROTOCYCLE
Meters

YOU CAN RELY ON ROCKWELL

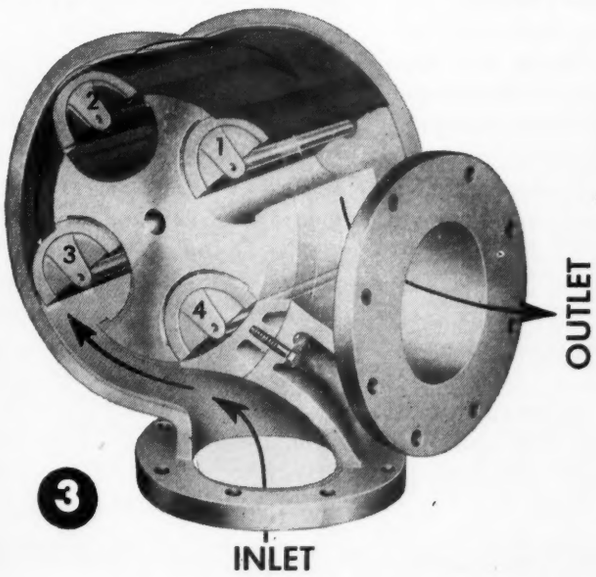
The Rockwell Rotocycle has been designed to keep meter maintenance costs down and to extend useful meter life. This is largely due to the ease with which these meters operate. The smooth motion comes through reducing resistance to flow and eliminating metal-to-metal contacts. Liquid moves through the Rotocycle in a direct rotary "Flo-ward" path from inlet to outlet. No winding passages obstruct the flow. The motion is identical to that of an electric motor and equally free. By operating with less friction and resistance, Rotocycles permit savings through the use of smaller electric motors to drive pumps, and through lessened power needs.

ROCKWELL MANUFACTURING COMPANY • Pittsburgh 8, Pa.

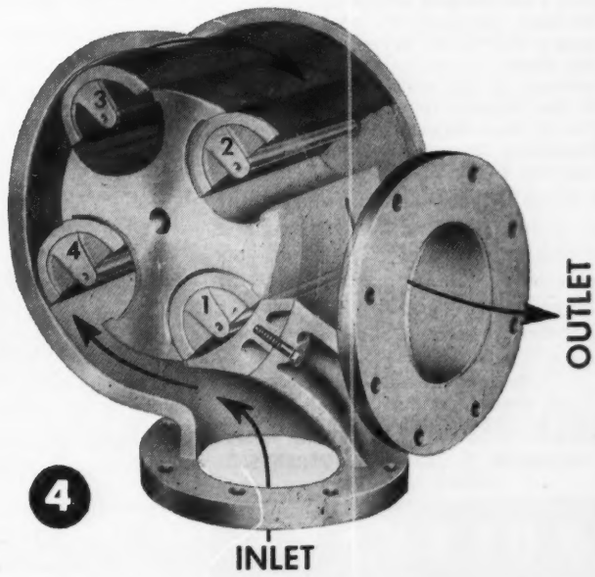
Atlanta Boston Charlotte Chicago Dallas Denver Houston Los Angeles Midland, Texas
Kansas City, Mo. New York Philadelphia Pittsburgh San Francisco Seattle Shreveport Tulsa

Canadian Petroleum & Industrial Meter Sales: Peacock Brothers Limited

THROUGH A "FLO-WARD" CYCLE



ROTOR POSITION III: Vane (3) has reached the seal position. Between it and vane (2) is another measured volume. There are two segregated and measured volumes for each rotating cycle as indicated in dark color. Capillary seals eliminate wear and friction.



ROTOR POSITION IV: Vane (4) has reached the seal position and another measured volume is segregated. The volume between vanes (1) and (2) is now discharging through the outlet port. These measured volumes are integrated on the register in terms of gallons.

SAVE TIME ON THE JOB • SAVE FUEL FOR YOUR CUSTOMERS

Install

NU STANDARD KOLBKAST COMBUSTION CHAMBERS

Here's why you'll save time on the job, fuel for your customers when you install NU STANDARD Kolbkast Combustion Chambers:

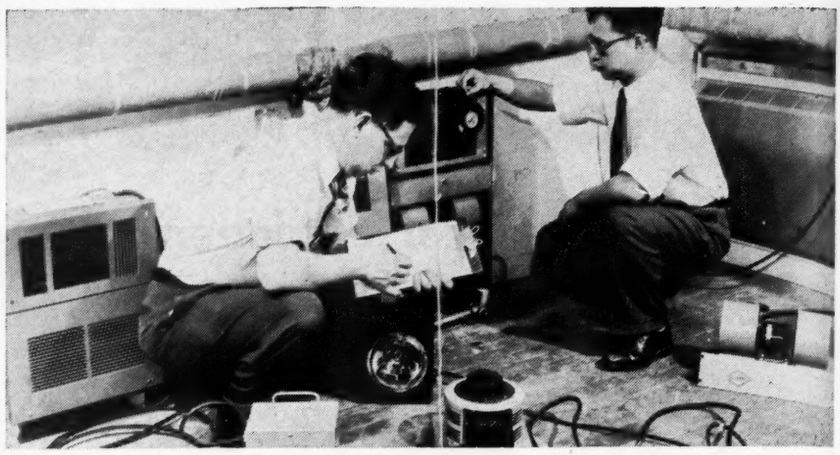
- there are only six pieces to assemble
- tongue and groove construction fits together quickly, snugly
- galvanized steel bands draw the assembly tight—prevent gas loss and improve combustion efficiency
- the base, recessed ¼", provides an air space that gives better insulation to the floor
- millions of air cells in the structure of the chamber itself retard the transfer of heat through chamber walls
- insulating properties are equal to insulating brick

The NU STANDARD can be used with high or low pressure burners and it is available in five sizes to meet all your requirements. Shipped complete with steelbands and scientifically packed to prevent breakage. Shipping weights are low.

Get full details today on these low cost chambers.

KOLB REFRACTORIES CO.
MEADOW & JACKSON STREETS
PHILA. 48, PA.

KOLBKAST INSULATED CHAMBERS



Alexander Goldsmith *(left) and Dr. Shan Shang are shown testing* UNARCO'S *new "Dual-Vector" at the company's $100,000 research and development laboratory in Chicago. In addition to testing newly-developed company products, the laboratory studies similar equipment manufactured by other organizations.*

Low cost heating-cooling Unit developed by Unarco

RECENTLY, A CHICAGO home was equipped with the first "Dual-Vector," a low cost, year round heating and airconditioning system made by Union Asbestos & Rubber Co.

Operated by a hot and chilled water system it eliminates duct work because the "Dual-Vector" units are recessed in the walls. The first installation was in a two-story house containing 3,900 sq. ft.

This was a deluxe installation and cost the owner about $3,000 including a three-ton water chiller. An ordinary heating system would have run about $1,500.

Several apartment buildings and houses for rental in the Chicago area are scheduled to have the new units.

According to Martin J. Rosen, who, as president of A-Guaranteed Heating & Air Conditioning Co., made the first installation, a six-room ranch house could be equipped with the system for about $1,600. A heating system alone would cost $900 and for an additional $700 the owner could have airconditioning (including a two-ton water chiller).

In a 30-family apartment building the heating-cooling plant will come to $35,000, compared to $20,000 for a heating system alone.

Hot or chilled water flows through insulated copper tubing from the central unit to individual units in each room. High capacity fans circulate the de-humidified, filtered air. Each unit can be controlled either manually or by means of a thermostat.

Rosen finds that the system operates more quietly than the conventional forced air system and is more efficient because the hot and chilled water flows through insulated tubing.

❖

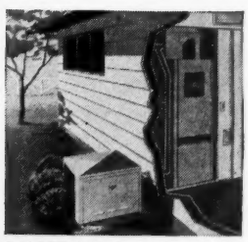
Chicago Survey looks at the Negro Market

THE SECOND CONSUMER market survey of Chicago's Negro market has been concluded by *The Chicago Defender*, under the direction of Dr. Charles L. Allen, director of research, Medill School of Journalism, Northwestern University.

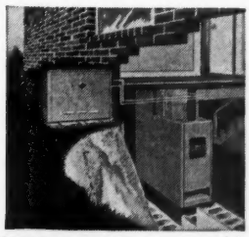
The survey, conducted by personal interviews among Negroes which included subscribers and non-subscribers to the *Defender* in Chicago, Gary, Ind., and Evanston, Ill., developed information on the kind of heating system and fuel used. Steam heating led the list, with 33% of the families reporting it; forced hot air was a close second, 30.6%; then hot water, 16.8%; gravity hot air, 10.7%; coal or wood stove, 5.8%; radiant heating, 1.8%; oil or electric space heaters, 1.6%; don't know, 0.5%.

Coal is the most widely mentioned fuel, 61.9% of the families using it; fueloil is second at 25.1%; natural gas is third, 10.4%; bottled gas follows at 1.0%; electricity is used by 0.5% and the balance, 1.4%, "don't know."

A Specialist has only one love!



CLOSET "Spacesaver" showing Hi-Boy Furnace with "V" cooling coil on top and condensing unit outside house.



BASEMENT "Spacesaver" with Airtemp Lo-Boy Furnace.

AIRTEMP specialization in air conditioning makes it easier for you to sell and install AIRTEMP matched winter heating and summer cooling

Air conditioning in its full meaning—summer *plus* winter climate control—has been Airtemp's business for 20 years. This specialization of research, engineering, manufacturing and selling know-how can help you earn more money in two ways:

1. Features that no one else can match—benefits that mean more to your customers because they *do more* for them—make your selling job easier with Airtemp.
2. Winter heating and summer air conditioning units are "made for each other" in every detail by Airtemp. And these precision-matched units not only assure perfectly balanced year 'round air conditioning—they make installation easier and faster, save you precious man-hours on every job.

Make the Airtemp franchise the one that builds greater profits for you. Write for complete details to Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

"The Line That Pays"

Airtemp

DIVISION OF CHRYSLER

HEATING • AIR CONDITIONING FOR HOMES, BUSINESS AND INDUSTRY

fueloil & oilheat

I've found the secret - have you?

All over America dealers are changing to *Thermo-Base warm air baseboard distributors.*
You, too, will be glad you found the secret of Thermo-Base. And no wonder! Only *genuine* Thermo-Base takes the forced air "feel" *OUT* of the forced air system.
Thermo-Base provides dealers with special FREE Promotion Aids. This hard-hitting program has been designed to make *more* Thermo-Base sales for YOU. Quote Thermo-Base on every job and you'll find the secret of extra baseboard sales *and* profits!

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Letters

MASSACHUSETTS HEATING CORP.
Boston 20, Mass.

Editor:

(Editor's Note: This is a letter received to dispute the claim that generally nobody objects to licensing oilburner servicemen. The letter is unusually long, but since it presents such a cogent analysis of the situation and develops the point that efficiency of servicemen is directly a function of management, it is reproduced almost in its entirety.)

"While reading Mr. Schulz's article in the May issue of FUELOIL AND OIL HEAT, I was so struck by your comment in the third paragraph that not one letter had ever been received in opposition to licensing servicemen that it was necessary to stop there for a moment. Herewith please receive at least one letter which is opposed most emphatically.

"While certain governmental regulations no doubt are required to ban abuses in our industry, which we have been unable to clean up, a proposed licensing scheme would constitute direct governmental intervention into the day-to-day operation of both your business and mine. To this I most vehemently object. It is my firm conviction that the success of an industry and of the individual organizations of which it is comprised depends upon management, not upon the government. Intervention by governmental bodies should be limited to such laws and regulations as may be required to protect the public. In my opinion there is a vast difference between an enforceable law tailored to prohibit certain practices harmful to the public welfare, and the assumption by a governmental body of the direct management responsibility of determining who is a competent employee.

Management Responsibilities

"The successful operation of a business is basically dependent upon how we choose our employees and how we treat them. If we desire to turn that function over to a governmental body we are giving up the basic right that made our businesses what they are.

"I do not desire to give up our right to determine who is a competent employee and prefer to have our customers, in the last analysis, decide whether we were right or wrong. If we are right our business will prosper, if wrong, it will fail.

"Prior to taking up the subject of licensing servicemen, I would like to state that I do not feel qualified to express experienced opinion relative to light oilburners, and the oil business. We are in neither. My opinions, which I feel to be comparatively well advised, relate entirely to residual oilburners.

"I would like to state also that in Massachusetts anyone in the burner business is required to have a certificate of competency. While the thoughts as to its adequacy are many and varied it does place the responsibility for proper work upon the individuals who hold such certificates.

Massachusetts Rules

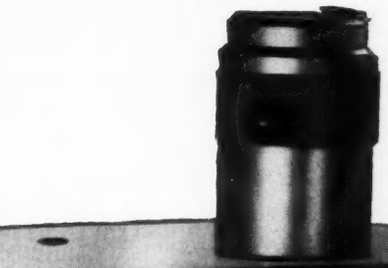
"1. The examination of service personnel would entail an expensive and, I fear, inadequate program. At present we have our own thoughts as to how our service work should be done. Naturally our training is in a continual period of change as new products, approaches, controls, instruments, etc., become available. Our servicemen are trained, with advantage being taken of such pertinent control courses as come along, in a manner which, over the years, has been satisfactory.

"Our competitors have their own programs in which they have equal confidence and which are doubtless tailored to meet specific needs, also.

"In essence a training program is necessarily something that must be continuously changing to include new developments of all types and should be adjusted to meet the specific needs of the company by whom the men are employed.

"Examinations would have to be continuously revised to be up to date on current developments. It is obvious that the service requirements of a company handling service on many varied makes of burners has considerably different manpower requirements than one specializing in service on one particular burner.

"2. As in any field of endeavor, servicemen vary in ability. We have



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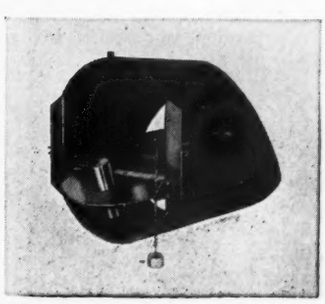

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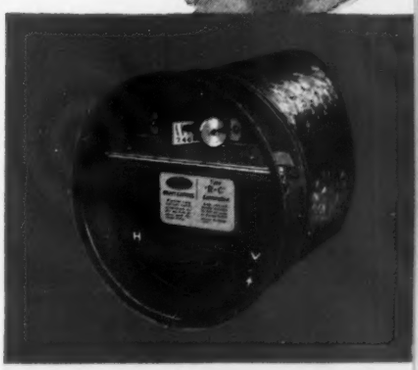

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men in whom we have the confidence to assign the really tough ones, where not only thousands of dollars worth of equipment are involved, but many times that amount in process work or production schedules. Other servicemen, while efficient, knowing, and reliable, just do not have the knowledge or ability to solve a highly complicated problem of major scope. The dividing line as to requirements for a license will be most difficult to draw. Should various classes of licenses be established it would be a further widening and complication of the instructions and testing problems as outlined in Item 1 above.

"In addition to this, I cannot help but believe that, in time, should class A., B., C., etc., service licenses be established, a dollar sign is going to be attached to a given license. It has been the writer's experience that many competent men, usually through lack of formal schooling, do very poorly in examinations on subjects with which they are eminently familiar and highly qualified. The converse is equally the case.

"3. Once a governmental body organizes the servicemen as an entire statewide group, our position as employers becomes extremely weak. If the classification of men as to ability is done by the State, we have lost one of the prime requisites of management, that of choosing our own men. From our own experience, as well as daily newspaper examples, there is a large background which shows the situation existing in other industries. Personnel whom management feel to be incompetent in grade cannot be let go without the danger of strike. Anyone in the oil business, particularly, should feel alarm in this regard.

"4. The great number of companies in the oilburner business are reputable hard working organizations, proud of their work and their company reputations. Most of them handle oil.

"The only manner whereby these companies have grown and are continuing to do so is by giving the public good service and fair treatment. Once the State takes over the job of qualifying and grading our servicemen, the public welfare will suffer. Competition has been the wellspring from which good public service has grown. If we find ourselves with a group of servicemen over which we have little control, the healthy fight for business will degenerate into a Management-State-Employee rat race to the detriment of the general public.

"5. When service has been rendered, the customer looks to the company if anything should go wrong, not to the serviceman. In the writer's opinion this is proper. Service, by the very nature of the beast, is an unusual trade. As an example, should a serious explosion follow a visit by a serviceman, who is going to decide whether or not it was caused by improper work by the man? There could have been several things the matter with the job, and his corrective action covered only some of the items. He may have messed up the job to a fare-thee-well, but who is to say what he did or did not do but the man himself? As always the responsibility is with the company, not the man.

"When a question of improper plumbing or wiring might arise, for instance, it would be a comparatively simple matter for an investigator to determine. In other words the job was done in accordance with the code or it was not. Not so with the burner serviceman. It would take a staff of amazingly well-qualified and courageous men to withdraw licenses from servicemen for alleged poor service.

In Summary

"1. Licensing is not a cure-all for certain needs of the industry.

"2. Evaluation of personnel is a management function which cannot be foisted off on any other group with satisfactory end results.

"Now that that is off my chest, we wish to compliment you and the whole staff of FUELOIL AND OIL HEAT on the fine job being done with the commercial-industrial section. We are interested particularly to see the results our servicemen come up with on your recent examination. We have ten men specializing exclusively in servicing industrial burners, mostly horizontal rotaries. Altogether we service about 2,000 #5 and #6 burners."

F. W. COOPER

fuel oil & oilheat

New UL burner-test Lab

Fourth test station of UL, at Northbrook, Ill., is great benefit to oilheat Industry

by
John W. Schulz

SAFE OILHEATING is the main interest of the oilburner specialists who do laboratory test work for the Underwriters' Laboratories, Inc. Headquarters of these specialists now is Northbrook, Illinois, a suburb of Chicago.

Underwriters' Laboratories, Inc., founded in 1894, is sponsored by the National Board of Fire Underwriters and operates not for profit but for service. Income for the Laboratories comes from industry in the form of fees charged for investigating, testing and listing of materials and products, and factory testing.

Until recently, the Laboratories had testing stations in New York, Chicago, and Santa Clara, California—three testing stations all told. Chicago was the Mecca of designers of oilheating equipment; every designer wanted to go there at least once to study the vast array of instrumentation and laboratory equipment used to decide if oilburners, oil-furnaces, oil-boilers, controls, and related equipment were worthy safety-wise, thus could wear a UL label.

"Every time I send one of my new models to Chicago to be tested," an oilburner designer said a few years ago, "I hold my breath until I hear from the UL lab men about the burner's being fit to bear their label."

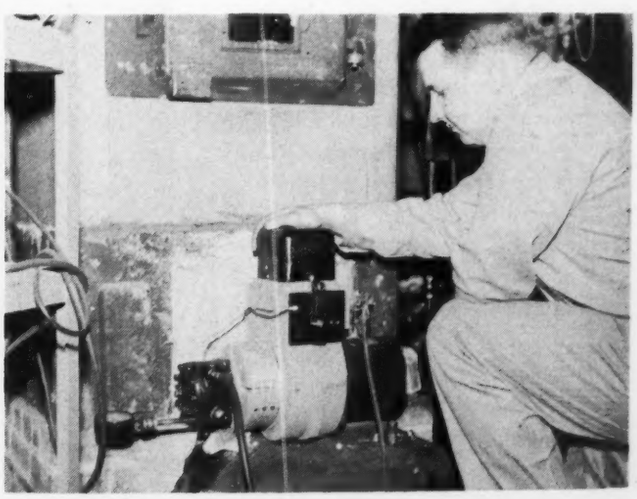
In recent years such breath-holding extended over a period of too many months. During the postwar period following World War II, manufacturers jammed the Chicago facilities of the Underwriters' Laboratories with an unexpected and unprecedented flow of new models of oilheating equipment. Years went by without the jamming and resulting testing delays being lessened to a degree that suited oilheating equipment manufacturers. One of the two main reasons for the setting up of the fourth testing station, at Northbrook, Illinois, was to provide greatly expanded facilities for testing oilheating equipment—so that testing could be performed rapidly enough to please the oilheating industry.

The Northbrook site has more than twice the area that was used in the UL lab in Chicago for testing oilheating equipment. The Chicago lab is still in use, but oilburners and similar equipment are no longer tested there; the space that was used there by the Gases and Oils Department now is used by other departments which don't test oilburners.

The second reason for the setting up of the fourth testing station at Northbrook had to do with improved testing, providing better facilities to make new, different kinds of tests. That applies to other types of testing not related to oilburning—for the fourth station at Northbrook is not devoted 100% to the oilheating industry—but it applies as well in an important way to oilburners and related products.

The Northbrook testing facilities include, for instance, a two and one-half story simulated house for testing prefabricated flues and vents. They

Arriving at laboratory, *this flange-mounted pressure burner is studied by specialists who scrutinize every detail—the smallest screw gets full attention. Ignition system always is of particular importance.*



Firing tests *are made of every burner aspiring for a UL label. In addition to tests made to check dozens of points pertinent to UL requirements, tests are made to simulate ordinary field performance.*

These new *Northbrook buildings above have double the area and facilities which could be used to test oilheating equipment in the old laboratories in Chicago. New facilities include, for example, a simulated house for testing prefabricated vents and flues—house is two and one-half stories high. Accessories can be tested in special cabinets at 35° F. to 300° F. A special test room has a 29 ft. ceiling height—can be used to test appliances connected to flues in same room as appliances, not affected by outside air, winds, etc. Products of combustion are discharged into room from which air is obtained for combustion. Great variety of fuels are available in buildings.*

include a special test room having 29 ft. ceiling height in which oilfired equipment can be tested while the air for combustion is taken from the same space into which the products of combustion are discharged. Among other things, prefabricated fireplaces can be tested in this room.

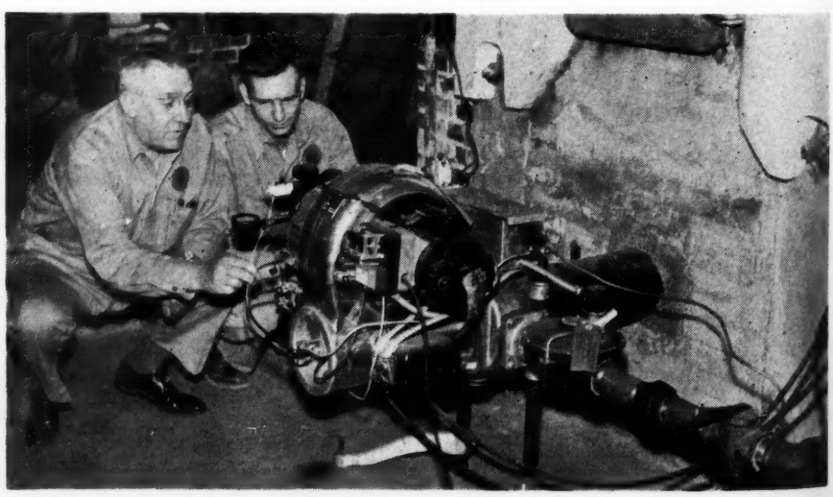
Accessory devices can be tested under ambient temperature conditions of 35°F. to 300°F.—using new special cabinets developed for the Northbrook laboratory.

All fuels used by oilburners and combination oil-or-gas burners are on tap at Northbrook. All types of oil-furnaces and oil-boilers can be put through their paces. The laboratory has 13 boilers of its own, in which conversion-type burners can be fired, and to which accessories can be applied for testing. Two of these are 140 hp boilers which serve for heating the laboratory buildings as well as for testing oilburners.

The UL experts who study new models of oilburners at Northbrook have much in common with experts who install and service burners in the field, for these UL experts install burners in the usual way and let them run normally. For 500 hours of a test run, a burner is on for ten minutes, then off for ten minutes. There's familiarity at Northbrook, as the result, with common causes of service calls—ignition delay or failure, oil leaks, "off on safety," leaky shut-off valve, plugged nozzle, etc., etc.

Burners which arrive at the laboratory somewhat prematurely sometimes are tested—I've seen laboratory experts step past these (particularly when the burners were trying to get themselves started) in a manner borrowed from a nervous mailman who must edge past an unfriendly dog. The misbehavior of a burner based on new ideas occasionally is the cause of a bit of clean-up work around the 13 boilers used for test firing.

When it comes to the cold-oil and low-voltage test, a new burner faces the opportunity to prove what it can



Combination-fuel *burners like this one have become increasingly important in recent years—and have added great complications to the testing work. This is one of the larger boilers of the 13 in which burners are fired in the laboratory. Two of the boilers, the largest in the lab, are 140 hp each and serve for heating the buildings as well as for tests of oilburners.*

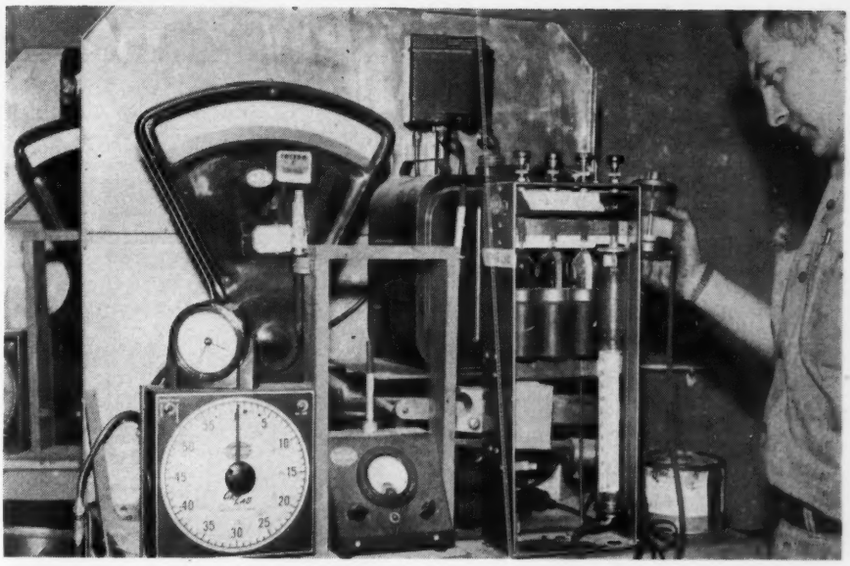
do under conditions not favorable for placid operation—for the burner is given electricity at 70% of proper voltage, and at the same time is given oil chilled to 32°F. Such testing is usual. Burners that don't pass don't wear the UL label.

The design, construction, and operating characteristics of ignition systems are of prime importance to these UL test experts. So are the performance characteristics of the safety controls used with the burners to protect against nasty burner behavior resulting from ignition delay, ignition failure with the firebox hot, or flame failure after the burner fires normally for, say, five to twenty minutes. Speed of control response to abnormal burner behavior is of vital importance to the laboratory workers.

"Fourth Testing Station" is much too unpretentious a name for the new laboratory at Northbrook, Illinois. It's belittling! Judge that for yourself as you consider that at this site 13,400 square feet are used by the Gases and Oils Department (for testing oilburners and related equipment, and other equipment which involves combustible liquids and gases) and as you simulate a stroll through the "oilfired test bays" by studying the accompanying photographs.

The new UL laboratory at Northbrook, Illinois, is of great benefit to the oil-heat industry—with its vast capacity for doing test-work compared to the capacity of the Chicago laboratory that did its work until recently—with its new speed in putting oilheating equipment through tests—and with its new types of facilities especially for testing products developed in recent years.

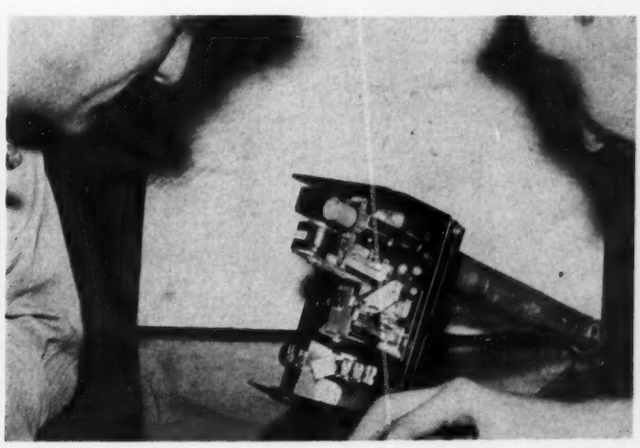
Also of great benefit to the oil-heat industry is the personnel at the Northbrook laboratory, from the engineers doing the oilburner firing and testing to those who handle the terrific volume of necessary paperwork. During your reporter's visit to the laboratory, made to obtain data and the accompanying photographs, he had the outstanding pleasure of chatting with that well-liked oldtimer in the oilburner industry, Bo Breed—about oilburner classics including the old Oliver burners, the Socony-Arrow, Nokols, and controls of the trip-bucket type. The personnel at Northbrook is at least as impressive as the vast oilheating laboratory and the work it does.



Instrument set-up. *Combustion engineers will recognize the three-cell Orsat gas analyzer at the right, which goes further than field-type CO_2 analyzers.*

Test set-up *simulates closet installation of oil-fired furnace; temperature readings taken at dozens of locations determine degree to which furnace can be closed in.*

Laboratory *includes impressive facilities for photographing products and their component parts—in special ways that bring out points related to production and safety.*



Oilburner safety *controls are fully as important to the lab experts as the burners themselves, for any burner is only as safe and as automatic as its controls make it.*

Heating Service Stations

Suspended Furnaces, correctly designed and installed, deliver even Heat and Safety

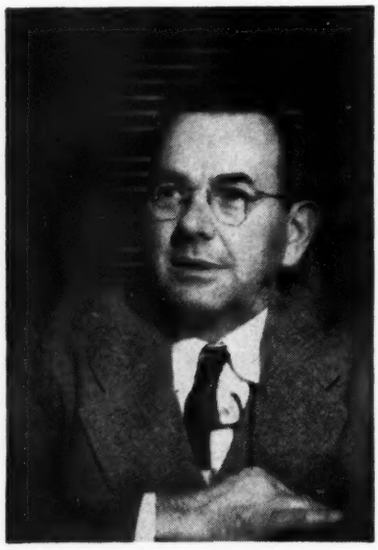
by

Harold K. Ricker

LESS THAN A DECADE ago, a revolution in the heating of gasoline service stations began. Up to that time, service stations, which are usually built on a concrete slab on the surface of the ground, had been heated by oil-fired or coal-fired units sitting directly on the slab foundation. Experience had taught public safety officials to require that the heating unit be installed in a heater room separated from the rest of the service station by a fireproof wall, through which there were no openings. Such a heater room could be entered only from outside the building.

This type of construction provided a margin of safety but added greatly to the cost of building a service station, because of the space occupied by the separate heater room. This could seldom be used for other purposes.

Illustrating *the space-saving feature of a suspended furnace when installed in the work area. Here double-directional grilles plus a floor level return connection to one of the filter openings provide excellent heat distribution.*



Harold K. Ricker *is marketing assistant, oil heating equipment sales, for Gilbert & Barker Mfg. Co.*

It has long been known that gasoline fumes are heavier than air and cling close to the floor. Thus, the regulation requiring a fireproof wall around the heater room was accepted as just and reasonable by those who invest their money in expensive service stations. The Fire Underwriters recognized that there was no hazard at any distance more than four feet above the floor by requiring explosion-proof electrical fittings only below the four foot level. From this fact came the idea of suspending an oil-fired warm air furnace overhead to heat service stations.

Petroleum marketers everywhere realized at once that here was the answer to the problem. The Underwriters' Laboratories agreed. They granted approval for units designed to their standards to be installed in service stations eight feet or more above the floor.

In the few years which have elapsed between then and now, the acceptance of oilfired suspended furnaces for service stations has reached the point where newly-constructed stations with any other type of heat are rare indeed in most sections of the country.

The rapid growth of this new type of heating system raised many questions regarding the best method of installation. It was quickly established that suspended furnaces have the lowest first cost and the lowest annual operating cost of any heating equipment ever used for this purpose. But questions of duct design, chimney size and height, register type and register location, still continue to be debated.

Many new ideas in the way of duct work design have been tried with the object of doing the job as well or better than with orthodox design, and at the same time obtaining some advantage in the way of lower installation costs. When such variations are the work of experienced heating men, they bring the expected results. But if the established principles of warm air heating systems are violated, they can frequently turn out less than wholly satisfactory.

Many of the difficulties encountered in the application of suspended furnaces could be avoided by a clear understanding of these few general principles.

First of all, the suspended furnace selected must be large enough to do the job. Of course, this is the most fundamental of all principles and applies to all kinds of heating plants in all kinds of buildings. Yet this most important and simple principle is frequently violated by installers of suspended furnaces. If the heating unit is not large enough to overcome the heat loss from the service station, completely successful operation cannot be expected.

There is no trick in the selection of the proper size of suspended unit for any service station. Any experienced heating man is able to make a heat loss calculation. By applying the known and accepted formulas for construction material, glass areas, etc., he can speedily come up with the Btu output required from the suspended furnace.

One point on which a question may arise in making a heat loss survey of a service station has to do with the lube bay doors. Usually there are two 10′ x 10′ doors in a two-bay lube room.

This means there are 80 lineal feet of crack around these two doors. There are another 80 feet of crack where the doors fold. In figuring the cold air infiltration around these doors, engineers generally assume that the leakage will be about 90 cubic feet per hour for each foot of outside crack and 40 cubic feet per hour for each foot of folding crack. This is 10,400 cubic feet per hour for two doors of this size. It is customary to ignore any heat loss which may occur through the opening of doors. All of the crackage losses for entrance doors, windows, etc. are figured according to the standard leakage formula.

In considering heat loss, there is one point which must not be overlooked, but sometimes is. This has to do with blowers which are required in some areas for ventilating the lube pits used in some service stations. Invariably the heat loss created by such a blower is more than the loss by natural infiltration—sometimes several times more. In stations where a pit blower is used, natural crackage losses may be ignored and the heat loss from the building calculated as the capacity of the blower. This frequently runs as high as 800 to 1,000 cubic feet of air per minute.

Other application principles have to do with the movement of air—warm air and cold return air. And since air movement cannot be seen, these principles are somewhat difficult to explain and understand. However, as far as the distribution of the warm air is concerned, the mandatory principles are few.

A point of the greatest importance is the sizing of the warm air ducts and registers. In most newly-constructed service stations, the oil-fired unit is suspended in the storage or utility room. This is possible because the old-time separate heater room has been eliminated in present-day service stations. A duct system is required to carry heat from the unit to the other enclosed areas within the station—the salesroom, toilets and the lube bays. The usual practice is to run a warm air outlet from the unit to each of the four different rooms. No duct is used for the storage room. It is heated by radiation from the unit itself.

The size of a duct and its connected register governs the quantity of warm air which it will deliver, and also its velocity. A duct or register which is too small will produce a jet-like blast of warm air. This is not only uncomfortable in itself, but it will also not mushroom out and mix properly with surrounding air to prevent cold corners in the rooms.

When ducts and registers are oversize, the reverse is true—the movement of air is too slow. Due to lack of velocity, it cannot reach out to the farther walls. As a result, there is stagnation. The heated air clings to the ceiling while the floors remain cold.

Catalogs can be obtained from all register manufacturers, containing information required for sizing registers and grilles correctly for volume and velocity. From these catalogs it is possible to select the air pattern and throw of a register which will suit the space to be heated. Deviations from recommended types and sizes always create the risk of unsatisfactory heating results.

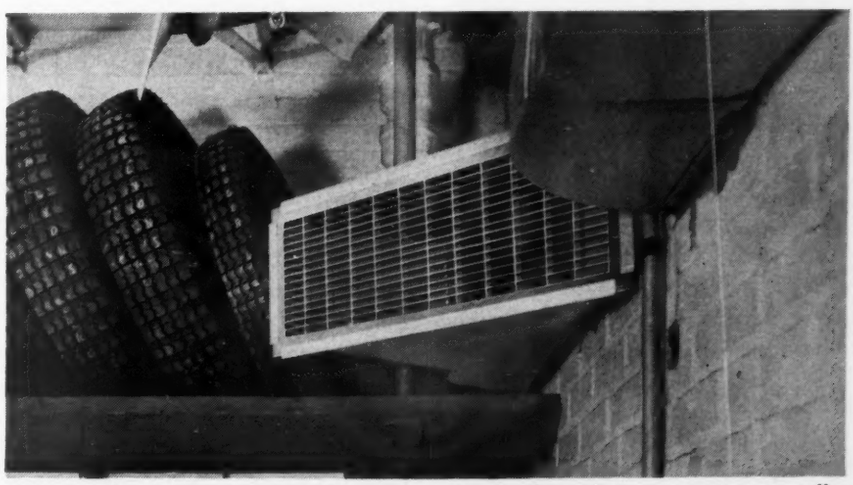
In laying out ductwork, too many elbows or unusual restrictions should be avoided. All ducts should run as straight as possible, with the fewest possible number of elbows. Sometimes the novice will put a constricting jog into an otherwise correctly sized duct, in order to get around a pipe or some other obstruction. Such a duct will not pass the volume of air which is needed to produce the velocity at which the air flow was calculated.

The type of registers to be used on warm air outlets is very important. While it is true that plain grilles are the least expensive, it is also true that they are by far the least effective.

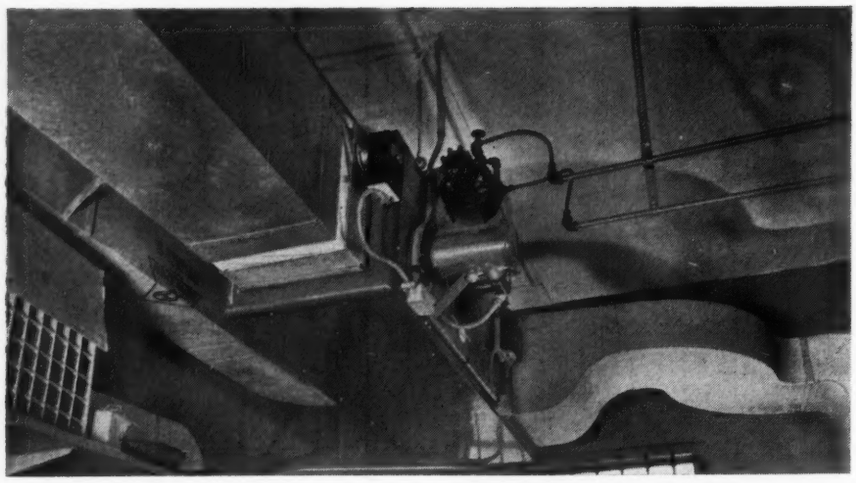
Air flowing from a plain grille cannot be controlled and will spread out at an angle of not more than 15 degrees beyond the dimensions of the grille itself. Adjustable double-directional grilles are available. These will fan the air out both horizontally and vertically. Such directional grilles pay back in satisfactory heating far more than their somewhat higher original cost. Warm air directional grilles can be spread out at an angle of as much as 110 degrees, and the air flow can be controlled both horizontally and vertically. Grilles or registers of this type are essential for completely satisfactory heating results.

Originally, most service station installations were made with cold air return ducts connected to return grilles at floor level. As time passed, there has been a tendency to eliminate cold air return ducts. In some instances, this was done for the purpose of lowering installation costs, but the saving in the average two-bay service station is not more than fifty to seventy-five dollars. In other instances, it has been claimed that the ducts dropping to floor level occupied too much of the valuable floor space which the suspended furnace was designed to conserve. But in most instances a lack of understanding of the importance of the cold air return seems to be the reason for its elimination.

However, every suspended unit in-



An example *of how a restricted duct throttles the flow of air to a warm air grille. Note, too, that the grille is non-directional and was an additional cause of poor heat distribution on this installation.*



Duct system *with "closed" returns connecting directly to a Gilbarco suspended furnace.*

stallation should have some provision for the return of cold air to the unit in a volume which is equal to the amount of heated air being discharged from the unit.

Explanations of the difficulties created by inadequate provision for the return of cold air may seem somewhat difficult to follow, perhaps, but the points involved are of paramount importance.

Take a suspended unit installed in one large room, which is the entire area to be heated—such as a warehouse, for example. Warm air is discharged from the unit. Cold air, by natural convection, returns to it in equal quantity. Since the entire circulation takes place within a single enclosed area, only minor air pressure differences are created.

The problem is considerably changed when the unit is installed in a service station storage room and is discharging warm air into several rooms. If adequately sized return air ducts are not connected directly to the unit from the lube bays, the toilets, and the salesroom, the air pressure within the storage room will be unduly lowered. This condition becomes especially severe when return ducts are omitted entirely. This is because the blower draws air directly from the room in which the unit is installed to make up the return air shortage resulting from the omission of return ducts. A similar condition can be created by poor ductwork or undersized ductwork in the return system.

It is from this not-too-well-understood cause that trouble with chimney draft often occurs, and draft directly affects combustion by the burner.

Any oilburner requires a surprising quantity of air at normal atmospheric pressure for clean and efficient combustion. A well-adjusted burner requires the amount of air contained in a room 15 x 14 x 8½ feet to burn one gallon of oil in an hour. To supply this amount of air, there must be ample draft—.02″ of water—in order that the flue gases which are the products of combustion will be drawn up the chimney.

Now what happens when the air within the utility room or storage room in which the suspended furnace is located is at lower than atmospheric pressure because of inadequate cold air return? Not only will the burner be robbed of the air that it requires for clean combustion, but in addition the greater air pressure outdoors will tend to force the draft *down* the chimney instead of up. The result is a smoky fire, oil odor, flame blown back against the oilburner head, and sometimes out the observation door of the furnace.

In some instances when solidly-connected return ducts are omitted, openings are left in the room walls and doors as substitutes. But even when this is done, draft is affected. This is because movement of air occurs only with difference of pressure. Not until air pressure is lowered in the storage room will the greater pressure from the other rooms force the return movement of the cold air.

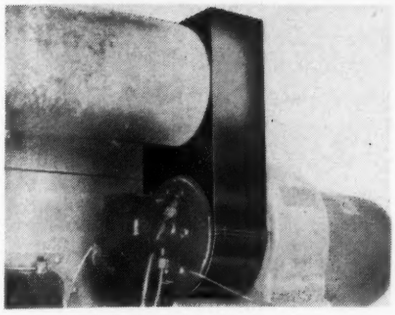
In an attempt to correct for this increased pressure difference it has become the practice to install a grille in the outer wall of the storage room to provide an added supply of fresh air from outdoors for combustion. Experience has proved, however, that the station operator often blocks up the grille with merchandise, sheet metal or cardboard, which nullifies the effect of such a fresh air opening.

For other reasons, too, a grille through the outside wall is not the best solution for providing fresh air. It creates uncomfortable temperature conditions within the storage room. So it was necessary to develop a better way. At least one manufacturer has developed an air inlet hood which can be attached to the fan inlet opening to the oilburner and connected to a length of galvanized smoke pipe which runs through the outside wall or roof of the service station. Both the air hood and the smoke pipe are inexpensive and their use guarantees an ample quantity of air at atmospheric pressure for combustion and an adequate draft to the burner.

The matter of supplying sufficient draft requires some explanation. A chimney at least eight feet high is required to assure adequate draft, and the chimney must extend at least two feet above surrounding objects within a 30 foot radius, which can cause a downdraft. The 8 foot minimum height is predicated on the fact that it will provide approximately .04″ of draft at the breech of the furnace. If the draft loss measured through a particular furnace is more than .015″ it will be necessary to increase the height of the chimney correspondingly.

To protect the chimney from downdraft when surrounded by taller objects or to minimize the effect of crosswind in wide-open areas, a flue gas exhauster should be used on top of the chimney. This device cannot create draft where none exists, but it can and does prevent backdraft under the conditions mentioned. Flue gas exhausters are manufactured by at least two companies and are based on scientific principles. They should not be confused in any way with ordinary types of chimney caps or hoods.

The satisfactory operation of suspended units in service stations de-



The Air Inlet Hood *shown here assures a positive supply of fresh air to the burner at atmospheric pressure—an essential for proper combustion.*

pends to a large extent upon the setting of the fan and limit control. Because the furnace is horizontal, heated air resists the tendency to flow by gravity. Therefore, the fan-and-limit control must be set as low as is practical. By so doing the life of a suspended furnace can be definitely prolonged.

The fan and limit control provided with every forced warm air furnace determines the temperature at which the blower will start and stop. This control is designed to prevent operation of the blower until the burner has been running long enough to make sure that warm air and not cold air will be delivered. In service stations the control on suspended furnaces should be set somewhere between 120° to 135° for "fan on" and at 100° or lower for "fan off." The exact setting can be best determined by experience in any given installation.

Filters are important in any industrial installation. This is true of service stations, of course. Suspended furnaces are equipped with filters which are designed to permit the passage of a definite volume of air at a certain velocity. When dirt accumulates in the filters the volume of air passing through is reduced. Therefore, when filters become dirty they should either be cleaned or replaced. Cleanable filters are more expensive than the throw-away type, but often prove more economical in industrial installations. By keeping the filters clean the movement of air through the suspended unit will be maintained at the rate for which the unit was designed.

When filters are permitted to become heavily loaded with dirt and lint, the quantity of air passing into the unit is greatly restricted. As a consequence the amount of air which the unit will deliver is also restricted. The first effect noticed by the station operator is that the building fails to come up to temperature and he feels chilly.

The uninformed operator usually jumps to a wholly natural but erroneous conclusion. Disregarding the plugged filters, he observes only that the temperature graduations on the fan and limit control are set at what seem to him a low level, and his first move is to set this control higher believing that in this way he will get more heat.

When he raises the temperature setting of the control the air in the furnace is certainly heated to a greater degree, but it is not moved out of the unit as it should be. From then on the suspended furnace operates on the high limit setting of the control in short bursts and at very high temperatures. This condition builds up excessive heat in the combustion chamber and the life of the chamber and, perhaps of the furnace body, may be shortened.

Therefore, the points with which the station operator should be familiar and understand thoroughly are, first, that clean filters are essential to proper operation and, second, that fan and limit controls should be set no higher than is essential for satisfactory heating when the filters are clean. They should not be changed to compensate for dirty filters.

In the more than 35 years history of automatic oilfired space heating equipment for small buildings, no type of unit has proved as versatile, as inexpensive to install and to operate as the suspended furnace. As a unit for heating service stations it is outstanding, especially if the installation has been well designed and the unit is well maintained after installation.

Effective fleet Operation

Part II. Organization, Management and Planning for safe, efficient Operation

This is the second of three articles reviewing some of the topics discussed at a series of ten classes on "Effective fleet Operation for local fleet Management and accident Prevention." The classes were conducted by the Extension Division of Rutgers University, in cooperation with Pennsylvania State College, and covered the subjects in a general manner.

However, much of the discussion centered on fueloil truck operation and many of those who attended were interested primarily in this subject. Hence these articles emphasize the features as they apply to fueloil delivery.

ONCE THE DRIVER has been chosen and trained, it is up to the fueloil company to utilize him to his fullest possible ability. This can be done only through efficient organization and management.

Before discussing the various means by which desirable truck fleet management and organization might be obtained, George S. Odiorne, Rutgers University, New Brunswick, N. J., outlined three of the basic organizational forms in general use today.

The first of these forms may be referred to as the "Open End." This type envisions a committee-type governing body which has a chairman who avoids using his veto power. If a change in policy is to be made, the change is discussed by all members of the board of directors or some similar group. In that manner, agreement and cooperation is obtained from all departments, since each has had his individual problems considered.

Chief advantage of the open end system is the ability to make continual changes in operation, although it is less efficient from a production standpoint. According to Odiorne, employee morale in companies of this type is usually remarkably high.

The second basic organization is the "Inverted Y," the most common type in use today. Odiorne pointed out that as far as production was concerned, this is the fastest system, since the chairman of the board exercises his veto power regularly, along with making a majority of the policy decisions.

Disadvantages of this organization lie in its inability to switch operational procedure rapidly, and the worker morale has been found to be lower than in the "Open End."

Third basic type of organization is the "Straight Line," or a partial compromise between the other two systems. Because of its restricted nature, the "straight line" organization is used in areas of relatively limited activity.

Only One Manager

There can only be one manager, and that manager should be company appointed. However, if the manager ducks the tough decisions, he will not succeed as a leader, and consequently the employees will turn to others, outside of management, such as the shop steward, for their leadership.

Concerning control, Odiorne said that studies show that the maximum number of people that can be controlled adequately by one individual is six, and that as the leader rises his control job becomes more complex since the people he is handling have far more complicated jobs. Thus, the number of six should be reduced as the higher echelons are reached.

Continuing, Odiorne noted that to have adequate control and good management, communications must be established and maintained. In other words, the employer must be "getting through" to his employees.

Pointing out that people in general are not effective in telling their story, Odiorne felt that the establishment of a basic vocabulary would be of considerable help. He added that cross-communications between departments, an important part in efficient organization and management, was far more available in the "open end" type of organization than in the others.

Along this same line, Odiorne stressed the point that people like to know what is going on in their company, especially as it affects themselves. As a result, he felt that employees should be told about changes which may have some bearing on their present situation before the changes are made. This, he said, in addition to preparing them for the switch, also gives the employees a sense of belonging, which in turn provides a feeling of security.

In handling union grievances, Odiorne felt that the greatest strike threats usually originate with newer locals, those with little experience in bargaining. He added that if the company was following the procedure laid down in the contract, that management should face the problem squarely.

There are two approaches to grievances, the Rutgers specialist noted, legalistic and human. To provide the quickest solution, he advised the supervisors to use the human approach—one which takes into consideration extenuating circumstances, patience, and a show of interest in the individual wherever possible.

He remarked that each individual has a number of human traits: 1. Recognition of accomplishment, 2. A sense of belonging, 3. Security, and 4. A goal to seek. Further, successful management requires that these traits be remembered in any dealings with the group as a whole.

Since an organization is made up of a group of individuals, and the individual embodies a number of varying interests, management must be prepared to show interest in the individual's problems.

Human relations, Odiorne said, also involves letting the individual know where the "fences" are, along with being fair. By the same token, management must use the procedure which it has helped to set up for handling grievances. " Be in a position to make your opinion count when you are faced with managerial problems," he told the supervisors, and "keep the fences or rules in the same place, every day, don't keep switching them." In this manner, Odiorne said, management will give the individual who is obeying the rules the all-important sense of security, and he will continue to obey them so long as that feeling is present.

William Bullock, United Parcel Service, Philadelphia, Pa., considered planning for safe and efficient operation.

Although United Parcel faces considerably more complex problems than the average fueloil dealer does, many points were brought out by Bullock that are of interest.

Since efficient route planning may often mean the difference between profit and loss on deliveries, Bullock felt that standards of delivery should be determined and a route charted which would approach these standards as closely as possible.

Delivery Schedule

The United Parcel man said that his organization measured such standards by miles travelled, number of stops and type of territory, and number of units delivered, be it gallons or packages. In setting up a delivery schedule, such points as apartment house areas, traffic congestion and special emergencies should be considered, and consequently, he suggested that about 20% more time, i.e. over actual running time, be added for delays and miscellaneous reasons of the foregoing type.

Bullock felt that to utilize any truck operation to its maximum efficiency, the delivery route plan should always run in an inverted "U" with the deliveries being made both going out and returning. There are many variations to this method, he noted, such as dividing the delivery area in two quarters and running inverted "U's" out of each quarter, or some other such division.

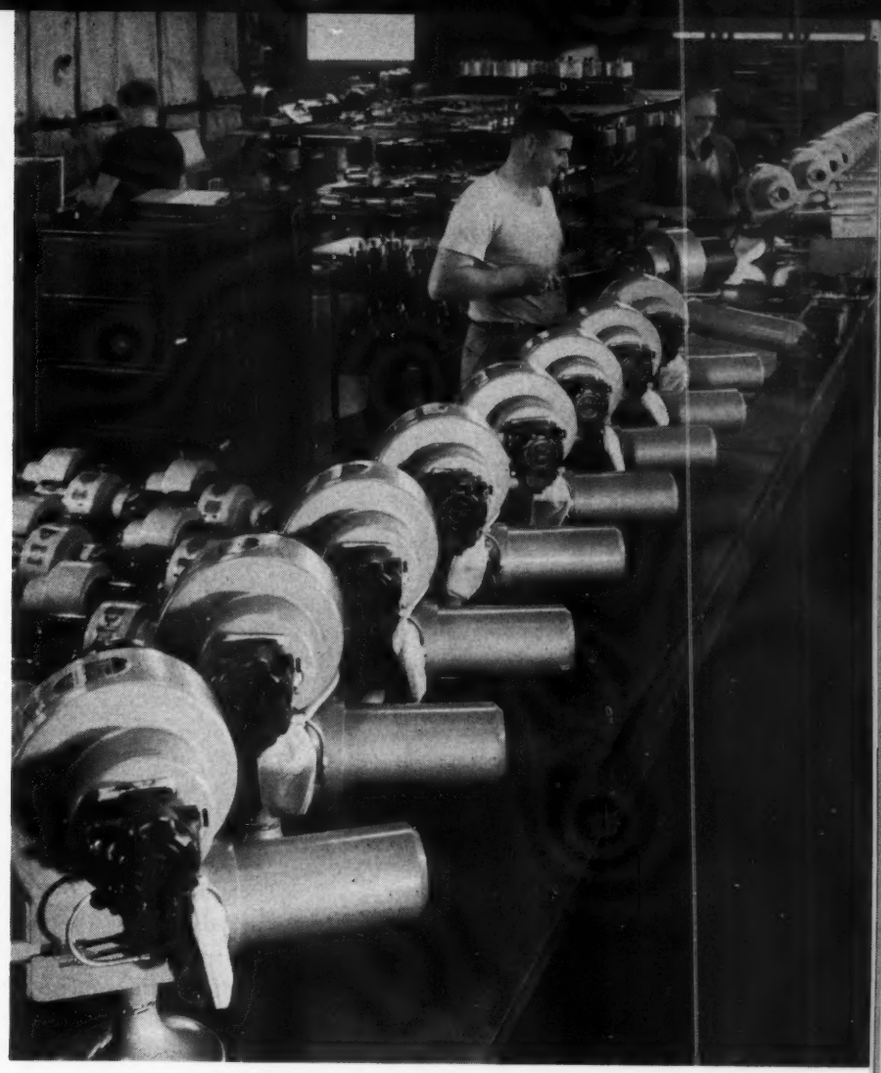
In conclusion, he gave a general plan which might handle both regular operation and emergencies, such as might occur during cold weather:

1. Divide your city, or delivery area into geographical sections. Usually this is quarters, making the dividing line some sort of natural or constructed barrier, for example, rivers or parkways.

2. Run the inverted "U's" out into these areas.

3. When deliveries are so numerous that they begin to cause delays, cut the "U" off in the middle, and make an additional "U" by closing the truncated ends. Thus the company gives the nearby area a shorter, but more concentrated route, while the outer section is also efficiently serviced.

5th Anniversary sees Opening of new Carlin burner Plant



BERNARD C. LINDBERG and John E. Carlberg got together about five years ago and formed The Carlin Co. That anniversary was recently celebrated with the opening of a new, one-story plant in Wethersfield, Conn.

Both men have been associated with the oilburner industry since the thirties, and in 1949 they bought out the U. S. Burner Corp. The new plant is twice the size of the old facility and has 13,000 sq. ft. of working space. The architecture permits increased oilburner production and space for research and development of contemplated new lines of heating equipment.

The eight models of U. S. and Carlin oilburners will move down assembly lines like the one above and will be shipped throughout the United States and to countries all over the world. About 15% of production is exported.

In the picture (above left) are some members of management. From left to right: Bernard C. Lindberg, president and treasurer; Bert J. Watling, sales manager; Robert S. Booma, assistant treasurer, and Edward Bagdigian, purchasing agent and traffic manager.

Shown below is John E. Carlberg, vice president and chief engineer, inspecting the new factory's heating plant, a two-zone hot water system consisting of unit heaters and convection radiation. A ten section cast iron boiler is fired by a U. S. oilburner.

"My heating Plant is my Enemy"

A Proposal to sell the health Aspects of Heating and alter this hostile Attitude

by
Art Winkler

"THE FACT about the heating business that worries me most," said the veteran sales manager of a nationally operating heating equipment manufacturer, "is that when I came into this industry 25 years ago, the heating plant represented an average low of 9% and a high of 11% of the entire cost of a house. This last year (1954) as nearly as we could ascertain, the heating plant represented an average low of 5% and an average high of 7% of the entire cost of the house."

He is only one of the many thoughtful people in our industry who are concerned about the matter of equipment prices—a downward spiral. The information available to us on costs and profits, at the manufacturing level, justify this concern. The data most accessible at this moment indicate that boiler manufacturers earned 5%, average, in 1954; oilheating manufacturers, 6.7%; water heater manufacturers, 7%; furnace manufacturers, 6.5% —all this before taxes—compared with 8.51% earning of all American industry. Obviously, we have headaches!

In 1954:

Grocery prices had increased 327% over pre-war. Auto prices 222% over pre-war.

Materials for heating equipment 131%. Labor 107%. Water heaters 18%. Furnaces 15%.

One good friend pointed out to me the essential difference between our industry and the automobile field: "In the car business, they up-grade the product year after year—adding more features, more chrome, more improvements, and raising the price. In the heating field, we seem to try, at all levels, to reduce the price, and get less and less money for our product."

The advertising director of a large control manufacturer asked me: "What is wrong with the heating business? There is no glamour in it—nobody is proud of his heating plant; none of my friends even knows what kind of a heating unit is in his house."

The men who handle sales and advertising and promotion in the large companies which make both plumbing and heating products will understand my friend's bewilderment. When they insert in a national medium, for instance, a typical glamour ad on bathroom fixtures, the public response is good. When they use the same space, in the same magazine, and talk about heating, there is relatively little response—even from the "mechanical-minded" men readers.

I am one to sometimes over-simplify the solution to a problem. In business paper activity, one is confronted with not only individual company troubles, but with the broad problems in our field, of which this "too low price" topic is typical.

To my advertising director friend who bemoaned the lack of glamour in heating equipment, I revealed an opinion I'd been a long time arriving at—the hard way. I talked to actually thousands of people, using my own style of questions.

Here is the opinion I gave him:

"Heating equipment is a damned nuisance to 99% of all citizens. It is something they wouldn't have around the house if it were not necessary to life. So they are determined to pay as little as possible for it."

You call up any 10 people in your phone book at random, and ask them what kind of TV set they have, what kind of car—and 100% of them will know. They even know the names of their refrigerators, and their dishwashers, the brand of clothes they wear, the name of their most-used medicine. And they know why theirs is "best."

But our Consumer Study last year found out that only 50.9% of the people know the names of their heating plants, and the higher the income, the less they know. Those who know it best are the "do-it-yourself" guys who have Saturdays to work around the house—who buy and change their own air filters, adjust their own burners, fiddle with their boilers, do their own plumbing. The people I query on trains, busses, planes, and in hotel lobbies, and places of refreshment, know the names of their heating plants in only 1/6 of the cases.

My friend, the advertising director, "bought" my theory that heating equipment is a nuisance that most people would prefer not to talk about. So, on a recent two months trip, I propounded it to quite a few people well located in the heating industry, to see if we could find a solution. Finally I collided with one young man on the Pacific Coast, who really jolted me. When I gave my "nuisance" theory, he shot right back:

"Nuisance! My heating plant is my enemy!"

When the shock subsided, I asked

for details. He said: "It is my enemy because it burns up dollars that I would prefer to use to join the country club, buy a new car, a better TV, use for clothes, bigger steaks . . ." Right there I interrupted. "Aren't those things your enemy too—don't they use up your dollars?" I asked him. His answer:

"Sure they do, but I enjoy those things."

Groping for something to change his thinking, I said: "But your heating equipment kept you and your family warm last winter, didn't it? Didn't it become your friend by preserving your baby's health?" Well—he hesitated and admitted he had never thought of it in just that way. Nobody—manufacturer, dealer or anybody else—had ever emphasized that side of it to him.

So, here is my probably over-simplified solution to our problem:

Let's advertise and sell "health" in heating.

C. E. Bucholzer, at Philadelphia, last January, said he did not believe that airconditioning would be sold in large volume, unless the health angle is introduced. His reasoning: Comfort is a generic term that is too broad—might mean a feather mattress, old pair of shoes, an easy chair. Health is understood by everybody. Moreover, the average citizen will pay more to become healthy and stay healthy, than to become comfortable and stay comfortable.

Our present advertising themes generally are "dependable," "steady heat," "modern heat," and then the inevitable picture of the baby or young child playing on the floor beside a baseboard, radiator or register—to imply comfort and probably health. This requires a thought transfer within the minds of the readers which is getting more and more difficult, as TV makes it unnecessary for them to think.

Instead of implying it, let's say: "Health with proper heating."

Consider the fields which use the "health" appeal. It supports a drug industry that runs into billions; cosmetics use it; clothing; shoes; glass; food; furniture; hotels and resorts—they are endless. When I suggested this h e a l t h theory to one smart young heating equipment man in Los Angeles, he queried: "Are you suggesting that we could say that our equipment is the only heating equipment good for the consumers' health?" Of course not, but you can always say: "Stay healthy—buy our heating equipment." What is wrong with that? We know it is positively true. Let every manufacturer who makes good heating equipment use his own appeal.

And don't let's be partisan about it. One fierce champion of wet heat said: "You got something there. Our . . . heating is a lot more healthy than hot air." Then a furnace manufacturer said: "I think I'll try your idea—we can humidify and clean our air. It is better for health than boiler heat."

If we get into intramural fighting, we are sunk before we get started—on a health angle, that is. But, the manufacturer, jobber, distributor, dealer, who seeks and finds good health reasons for his products, and says so in his approaches to the public, will, I am confident, in a few months be able to justify a better price position, and give his consumers increasingly better equipment.

All right—how do we do this job of making the public conscious of the health values in good heating? I have an opinion on that, too.

You'll recall that earlier I mentioned that only 50.9% of the homeowners interviewed in our Consumer Study last year knew the names of their heating equipment. But, if they had bought the equipment themselves through a dealer, 68.4% were able to name the brand, and 85.8% knew the name of the dealer. Also, the responses indicated that 9/10 of all purchases of heating equipment by homeowners are influenced by local dealers.

I offer you, also, this statement from the American Institute of Management's report of April, this year, on the warm air furnace industry (it would be typical of all heating equipment):

"In assaying the economic function performed by warm-air furnace manufacturers, it must be remembered that a central heating installation differs from most other home equipment in that the furnace itself constitutes only a part—in terms of cost only 1/3 or 1/4—of the installation. The heating installation is, in effect, manufactured in the home."

Thus—it is actually a job to be done at the dealer level, and through the dealers. Much of the final responsibility rests on and with the dealer. It is he who, with the help of the manufacturer—education, local advertising, etc.—must carry the "health through good heating" story to the public.

It is unfortunate that there are not many statistics which relate individual or family health to good heating. I respectfully commend such research to all the good and fine associations in the heating field.

There is one other phase of the "too low prices for heating equipment" problem which could rightfully be mentioned here. Says the American Institute of Management: "In the important new home market, extreme price competition has resulted at times in installations detrimental to both homeowner and furnace manufacturer." What they do not say, of course, is that the bad installation can be detrimental to the consumers' health.

Julian Warren showed me the other day that the 10 top builders in 1954 put up just 27,732 houses. Yet all of our manufacturers and many dealers are pre-occupied with this "large new home" volume business, neglecting the lush profits in replacement where needed, and in the small builder business.

A really good builder will pay a good local dealer a fair price for his heating equipment. Why? Because if he wants to give his home purchasers a fair shuffle and protect their health, he will have adequate dealer service right in the neighborhood. However, many large builders want to buy direct from the manufacturers. Builders move many miles, sometimes, as they shift their operation areas from year to year. If the maker of the heating equipment happens to have sold the builder the equipment direct, from 1,000 miles away, that's just too bad for the buyer of the home, and his family's health, if something goes wrong, and the builder is gone.

Dealers should get a decent price for their equipment when installed in new building developments; and good manufacturers know that selling to the builder through a dealer is the only way to avoid trouble. We commend it to all manufacturers.

One interesting fact that emerged when we made our study of consumer knowledge of heating equipment last year was that of 1,499 consumers interviewed only 763 or 50.9% of them mentioned 174 trade names. And of this 763, the largest segment knowing a single brand was 6.9%—and that brand represented millions of dollars of advertising investment in consumer media for several generations. Here is an illustration of how different it might have been if they had used a health appeal:

(*Please turn to page* 166)

Pattern for selling Contracts

Meenan achieves service contract Sales with seven mailing Pieces

SEVEN MAILING PIECES have proved effective in gaining service contracts for Meenan Oil Co., Levittown, New York, and Pennsylvania. Meenan has tailored its service for these communities and the promotion campaign on service contracts is no exception.

The success of the campaign can be measured against these statistics: Meenan grants the first year's service on a burner free. This costs the company 1.05¢ a gal. At the end of the first year 93% of the customers renew on fueloil, and 77% sign service contracts.

More than three quarters of the customers are on budget accounts, and because there are just three main types of houses in the Pennsylvania Levittown the monthly costs are pretty closely estimated. On an eleven month basis fueloil costs a "Levittown" or "Rancher" homeowner $12 monthly. The larger "Country Clubber" runs about $20 per month.

Remembers Anniversary

Meenan opens its campaign to get a service contract by reminding the customer with a postcard that his first anniversary in the community is just two months away. On this card price isn't mentioned. A drawing of a cheery little man offers a birthday cake and delivers this message:

"On your first anniversary—it's about two months away—don't overlook the first birthday of your home.

"We're thinking of it because we service your oilburner through the warranty period without charge to you. After that we must charge. But don't worry, our oilburner service agreement doesn't cost much, and gives you 100% protection. You'll be hearing from us!"

Ten days later a card is mailed saying: "Don't Gamble . . . With your family's comfort get a Meenan oilburner service contract and be sure." The card explains that a service agreement will be sent before the warranty period expires, and admonishes the customer to watch for it.

The third card is distributed after another ten day interval. It points out that the most reliable oilburner service contract is a Meenan contract. It asks the customer to be safe, not sorry. "Don't be hoodwinked with fancy promises . . . cut rates . . . fly-by-nights. An oilburner contract is only as good as the company that backs it up."

Thirty days before the warranty expires Meenan gets down to business with a letter that includes the service contract. The letter sells the specialized service of the company and emphasizes that the $15 charge covers all labor, all parts and all service calls during the year. In addition a vacuum cleaning job is included whenever required for proper operation of the burner.

Optional Plans

There are two optional plans at five dollars each for additional services. Plan A will cover the repair or replacement of underground fueloil storage tanks; and Plan B provides servicing of attic or extension heating equipment. All of the Levitt houses have radiant heat and Meenan specifies in an "attic service rider" the manufacturers whose equipment will be covered by the contract.

If the contract hasn't been returned within ten days a postcard goes out asking: "Any questions? If you want further information about our oilburner service contract—what it covers, what you get for your money—just sign this card and mail it to us."

Ten days before the warranty terminates a card is sent carrying the headline: "Last Reminder," and warns, "Within a few days the warranty period on your oilburner expires. Sign and send back the oilburner service agreement sent to you a short time ago. If you mislaid it, telephone for another."

The final card says, "Today your oilburner is out of Warranty! We have not received your oilburner service contract—please sign and return it AT ONCE. Tomorrow your oilburner may conk out. Who can tell how much it will cost to repair it?

"With a Meenan contract you don't have to worry—the contract covers all labor and parts."

The Meenan service contract carries an automatic renewal clause and to achieve a high percentage of renewals an explanatory letter is mailed. It starts, "Each year it is more important for you to protect yourself against failure of your oilburner with a service agreement." It goes on to point out the advantages of the contract and closes, "We wish to thank you for the privilege of serving you during the past season and assure you we will do everything possible to see that you continue to receive the finest in oil heating services in the years to come."

Apparently Meenan has found it good business to keep its customers enlightened about its organization and plant facilities. A small booklet explains the background of the company and Saturday tours through the plant have been held for the public.

Tailored Tips

Nine things the customer can do to assure his heating comfort have been drawn up by the company, especially designed for Levittown heating systems. A card with a check list of suggestions on maintaining uninterrupted burner operation is distributed to customers.

This card carries a number which may entitle the customer to a free oilburner service contract. The lucky number is announced monthly in a newspaper advertisement.

While Meenan admittedly has a specialized situation—servicing thousands of customers with the same heating plant, living in the same type of house—the plan to get contract renewals has wide applications.

Start the campaign early, keep it light and let the customer convince himself that a service contract is vital to his family's health and comfort.

Mobile Sheet Metal Shop

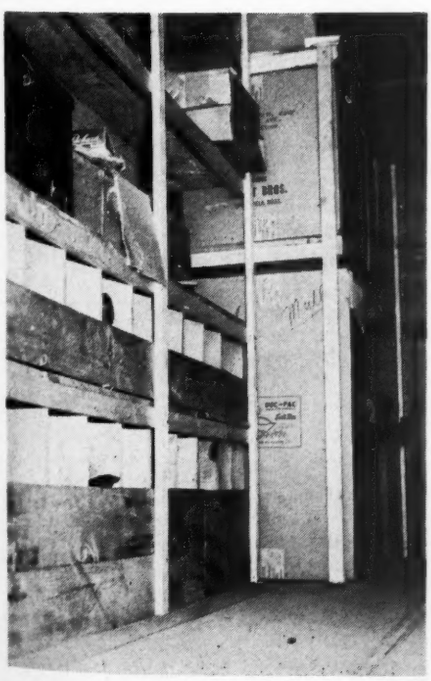
ZYSK & MULL
PLUMBING · HEATING · OIL BURNERS · AIR CONDITIONING
EDWARD S. MULL & CO.
FUEL OIL KEROSENE
Dial 7-1929
MERIDEN CONN.
"DON'T MULL AROUND · · CALL MULL AROUND"

ABOUT FOUR YEARS ago Edward S. Mull, fueloil dealer in Meriden, Conn., decided to go into the installation end of the heating business. It proved a wise move and he got a lot of project business.

To get more new home contracts he expanded the firm to include plumbing and the firm of Zysk & Mull was formed. Zysk handles the plumbing and Mull concentrates on the heating end of the business.

Mull bought a second-hand van and refitted the inside so that enough warm air fittings for ten houses could be accommodated. He handles Swett Bros., Inc., prefabricated fittings and works with that company's distributor, Heating Equipment Center, New Haven, Conn., in figuring layouts and heat losses.

The truck has a fully lighted work bench and has a series of shelves loaded with duct, pipe and fittings. The van is parked right on the project and left there for the duration of the job. Inventory is checked weekly in this mobile sheet metal shop to make sure it is fully equipped.



Oilheating Market Reports*
—MILWAUKEE, WIS. MARKET

MILWAUKEE fueloil marketers generally operate throughout the metropolitan area, including the city, plus the County of Milwaukee and a four-mile strip across the north and down the west sides of the county. Population in the metropolitan district at the time of the 1950 Census was 905,426 persons, 28% of the State. This had risen to 1,002,100 on Jan. 1, 1955.

In the five years, 1950-54 inclusive, the area gained 39,969 dwelling units increasing the total to 304,712—274,770 are one- and two-family units; 60,942 are in multiple-unit dwellings, three or more families.

Home heating Characteristics

The 1950 Census—based on the city and county only without including the fringe area—reported 205,505 dwelling units with central heating plants:

Coal-Coke	149,160
Wood	615
Gas	22,050
Oil	30,375
Miscellaneous	3,305

These figure out to about 17,640 gas-heated installations and about 24,300 having oilheating at that time when the dwelling units are converted to one- and two-family homes.

The *Milwaukee Journal* has conducted a market sampling study for the past ten years, reported home heating preferences in Milwaukee County. (See table.)

These figures relate to both central heating and space heating. However, it is estimated that 69,067 centrally-heated one- and two-family homes use oil fuel and 4,455 commercial and small apartment central heating systems are oilfired, for a total of 73,522 typical No. 2 oil customers in Milwaukee County. The full metropolitan area must include 13% additional users—the border strip outside Milwaukee County—bringing the number to 83,080 oilheating customers served by Milwaukee oil men.

Competitive Fuels

Coal heating has nearly dropped in half in tonnage during the past ten years; yet 36% of the market still heats with coal, indicating a good market for oil conversions. The gas utility cannot take too much of this at present through lack of supply.

Most of the coal is of the Pocahontas variety from West Virginia, averaging 14,700 Btu/lb. and selling at $21—7.1¢ per therm. Stoker coal from the same mines averages about 13,500 Btu/lb., sells at $18 a ton or 6.7¢ per therm.

Milwaukee Gas Light Co. has pushed home heating to about the limits of its supplies. It furnishes straight natural gas, 980 Btu, at 10.4¢ net per therm, after a discount for prompt payment. Three higher brackets cover 30 therms a month, a little less than normally used for other domestic purposes. In February the utility reduced its rates in the three upper brackets for families that use gas for house heating.

President Brown of the utility visualizes a considerable expansion in gas heating, citing a 1,300 mile pipeline that, after details are cleared with FPC, is expected to be in operation within 18 months. He has stated that a good many additional heating customers will be taken on as soon as the new line is started.

No. 2 oil sells in the Milwaukee market for 15.5¢ a gallon, equivalent to 11.1¢ per therm. Where a customer has a large tank and can take 350 gal. deliveries, the price is half a cent less. Only 10% of users have large tanks.

Fueloil Distribution

The typical residential and small commercial No. 2 heating oil user consumes 1,387 gallons in a normal season. Normal demand of the estimated 83,080 customers then is about 115 million gals. or 2,750,000 barrels. Distillate heating oil in the area is supplied in a ratio of 80% by major companies and 20% by independent terminal operators, either through their own Milwaukee plants or by transport from Chicago area terminals.

Just about a fourth of retail or tank wagon sales are handled by majors, three-fourths by independent fueloil marketers. The large majority of the marketers operate their own bulkplants, but about 17% of the companies buy their supplies at another company's bulkplant. They are small, though, and account for only 7% of the gallonage.

The composite opinion of major company men and independents is that only 63% of fueloil customers are on automatic delivery; 34% of the homes are fitted with VENTALARM signals or other tank-level devices; 7% of the customers use budget plans.

A strong tie-up exists between fueloil and gasoline in the Milwaukee market: 42% of the independent fueloil companies sell gasoline and 28% of these companies also sell coal and 33% of them sell oilburners.

Market Concentration

The table includes major oil company trucks used principally for No. 2 oil deliveries and shows the ratio of market concentration between company sizes. For example, 15% of the companies operate 48% of the trucks but do more than half of total business because larger companies use larger trucks and enjoy greater customer concentration. Their output per truck is greater than the market average.

Oilheating Sales

In 1954 among all oilheating installations in metropolitan Milwaukee, 31% were sold by companies in the fueloil business, another 49% were handled by general plumbing or heating companies, 20% were sold by oilburner service and installation firms. Oilburner selling activities by fueloil markets is increasing appreciably.

New oilburners installed within the city totaled 3,396 compared with 3,684 in 1953, but since far more installations are made outside the city limits the figures demonstrate a fairly healthy spot condition.

Service Activity

Oil companies looked after 39% of total service requirements last year, general plumbing and heating companies handled 34% of it, burner service specialty did the remaining 27%. Average charges for oilburner service are $29 for a service contract with parts against a national average of $25; $18 for a contract without parts compared with a national average of $17 and $13 for clean-up and overhaul as against a $12 national average. About 28% of the customers have contracts and about 43% of them get an annual clean-up of their equipment.

Minimum charge for non-contract customers is $4.57 per call by oil companies and $4.79 by companies not in the oil business.

Advertising Promotion

Major oil companies have done a moderately good job of advertising fueloil in the area and nearly half of the independent marketers advertise fueloil and oilheating in public media.

The Wisconsin Oil Heat Association has the longest record for co-operative advertising promotion of any group in the country. For more than 20 years modest but consistent amounts have been spent. Largest sum spent in recent years was $12,000 in 1951, including billboards, newspapers and a home show display. In the three years since only $4,000 has been spent each year, mostly in newspapers. For 1955 the budget is only $3,200 and half has been spent, all in newspapers.

A little under a third of the companies operating have contributed to the current program, but these account for about 2/3 of the gallonage. Channel for contributions has been through association dues which have included advertising funds.

Home Heating Preference in Milwaukee County

	Coal or Coke		Oil		Gas	
Year	Percent	Number	Percent	Number	Percent	Number
1946	86.0%	196,879	12.4%	28,314	2.1%	4,830
1947	83.2	194,298	14.2	32,928	3.4	7,940
1948	77.8	185,985	19.0	45,408	4.0	9,559
1949	77.4	189,500	19.7	48,255	4.2	10,288
1950	70.7	179,585	25.2	64,010	4.8	12,192
1951	59.9	155,803	27.7	72,049	13.2	34,334
1952	51.0	136,221	28.3	75,589	21.1	56,358
1953	47.3	126,660	31.3	85,139	21.9	59,570
1954	43.0	119,180	34.2	94,789	23.2	64,302
1955	36.0	106,848	40.4	119,907	23.9	70,935

Trucks Per Company	Number of Companies	Percent of All Companies	Total Trucks	Percent of All Trucks
10 or more	11	15%	138	48%
6 to 9	5	7	35	12
3 to 5	16	21	58	20
1 or 2	43	57	55	20
Totals	75	100%	286	100%

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Oilheating Market Reports*

ROCHESTER (Monroe County), N. Y.

THE CITY of Rochester is situated in the north central portion of Monroe County, N. Y. and since the county as a whole represents a homogeneous market and since fueloil operations generally are considered for the entire county, the market data in this report encompass the entire county. Population of the county at the time of the 1950 Census was 487,632—at that time population in the City was 332,488 against 155,155 in the rest of the county. On January 1, 1955, total population had risen to 527,700 and by far the greatest growth, nearly 98%, took place in the county outside of Rochester.

In 1950 there were 143,685 occupied dwelling units of all types, of which 124,460 were centrally heated. Of all dwelling units, 116,014 were one- or two-unit structures and 100,468 of these had central heating plants.

Included in the 124,460 centrally heated dwelling units are multiple dwellings of as many as 50 or more units. Broken down to the installations in one- or two-unit dwellings, here's the picture of heating installations in residences in 1950:

Coal	62,409
Gas	15,965
Oil	19,984
	98,358

To the oilburners should be added another 10%, or 1,998, domestic type oilburners using No. 2 fueloil in small commercial or apartment installations, making a total of 21,982 oilburners in both classes.

Competitive Fuels

Where there were 62,409 centrally-heated dwellings of one- and two-family size using coal in 1950, the figure today is estimated at 36,748. The greatest loss numerically has been conversions to fully-automatic fuels and oilheating undoubtedly has taken the greater share of this business—perhaps 3-to-1 over gas.

Natural gas was introduced in the Rochester area in 1951, but there were already 20,000 gas heated homes in the county as of the first of that year. On January 1, 1950—one- and two-family residences centrally-heated by gas totaled: 15,965

New gas heating permits:

During 1950	4,527
During 1951	4,948
During 1952	3,161†
During 1953	4,662
During 1954	5,297
Estimated total	38,560

†Restrictions on gas supplies.

In addition, it is estimated there are 2,478 small commercial and apartment gas heating installations in the county—a total of 41,038.

Figures for oilburner installations using No. 2 oil, based on the closest calculation that can be made, shows that on January 1950 in one- and two-family residences oil-fired central heating systems totaled: 19,984

Installed in 1950	6,952
Installed in 1951	5,748
Installed in 1952	6,864
Installed in 1953	6,262
Installed in 1954	4,880
Estimated total	50,690

To this total, add small commercial and apartment heating jobs using No. 2 oil—an additional 9,431 installations for an overall total of 60,121 installations. This represents 4.5% of all oilburners in the state and 0.79% of the nation's total.

Oilheating, thus, has a slight edge over gas for house heating, but the utility is rapidly overcoming even this advantage. In the new homes field, for example, gas is taking about 95% of the market.

Fuel Costs

Retail winter price for anthracite coal of about 12,500 Btu/lb. averages $25.50 per ton, about 10.2¢ a therm and just about on a par with the cost of No. 2 heating oil on a Btu basis.

Rochester Gas & Electric Co. sells gas for heating and also furnishes electric service throughout the county. Gas is of both mixed and natural variety, but rates for either are almost identical on a Btu basis. Natural gas of 1,030 Btu content in the lowest bracket costs $1.25 per Mcf; mixed gas of 540 Btu content costs .625¢ per Mcf. At this lowest bracket which assumes that gas is used in the home at higher rates for cooking and water heating, gas house heating costs 12.1¢ per therm—approximately 16% above the cost of No. 2 fueloil on a Btu basis.

Oil to heat a typical home, for example, would cost $22.86; equivalent cost of gas heat, where domestic gas appliances are not used, would be $30 per month.

No. 2 fueloil at the Winter rate of 14.5¢ per gal. costs about 10.4¢ per therm.

Fueloil Distribution

Annual consumption of No. 2 fueloil in the county is approximately 2¾ million barrels, with practically all of it handled through integrated oil companies. There is no wholesale pattern of supply similar to that in some of the large independent terminal areas, such as New York Harbor. Almost 31% of the No. 2 fueloil gallonage is sold at retail by six major oil companies; ten integrated companies, in all, operate in the area.

Independent marketers handle the remaining 69% of the retail business, with 43% of the gallonage purchased "under the fill" by two-thirds of the independents who maintain no bulk storage facilities of their own.

Delivery practices are advanced—85% of the residential customers receive automatic deliveries, 71% of customers' tanks are equipped with VENTALARM or visual fill signals and monthly budget plans are in use among 17% of the accounts.

Oilburners are sold by 22% of the independent fueloil marketers; a small proportion (12%) market gasoline in addition to heating oil and 31% sell coal.

Market Concentration

Distribution of No. 2 fueloil is highly concentrated, with 42% of all trucks operated by only 8 companies or 10% of all companies serving the area. The figures in the table do not include 26 trucks operated by major oil companies in retail delivery of heating oils.

Average is about 3 trucks per company; perhaps it is more significant that 68% of all companies are in the 1- or 2-truck classification.

Oilheating Sales

Fueloil companies sell 27% of the oilburners installed in the county, while 41% of equipment sales are made by plumbing and heating people, 32% by specialized burner service outfits. The impression of most industry people is that interest and activity among fueloil marketers in oilheating equipment sales are increasing.

Oilheating Service

Plumbing and heating companies perform 23% of all oilburner service work, special service companies do 38%—together handling 61% of the market's burner service requirements, against 39% taken care of by the fueloil marketers.

A low ratio of 16% of oilheating equipment is covered by service contracts, pointing to a fertile field for organization, but a greater share—just under half—of oilheating customers have their heating equipment tuned up each year. Thus, two-thirds of all customers' oilburners are conditioned annually, either through contracted service or annual clean-up.

Prices charged for service work run on the high side. Median cost for contracts, including parts, is $26.93 and $18.81, without parts. Non-contract, annual clean-up costs $10.64 and customers not under contract are charged $4.18 for service calls by oil companies, $4.97 by companies not selling fueloil.

Advertising Promotion

Current individual advertising efforts by the integrated oil companies for fueloil and oilheating have been light and only 22% of the emphasis has been upon the advantages of oilheating as a facility. Advertising by the independent marketers also has been moderate.

The Oil Heat Institute of Rochester—after a lull in the two years since 1952—has organized a promotional program for 1955. A budget of $20,000 was contemplated, and of this $13,000 has been collected. Only 16 of the independent companies have subscribed, but they represent 90% of the retail gallonage in the area.

The co-operative promotional efforts of the oilheating group apparently have prodded the utility into its own gas house heating advertising, probably a $15,000 campaign, which began in early spring.

Trucks delivering No. 2 fueloil	*No. of companies operating within classification*	*Percent of companies to total*	*Total trucks represented*	*Percent of total number of trucks*
10 or more	5	6%	77	34%
6 to 9	3	4	19	8
3 to 5	17	22	60	26
1 or 2	53	68	72	32
Totals	78	100%	228	100%

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Oilheating Market Reports*
—METROPOLITAN ST. LOUIS

THE METROPOLITAN AREA in this study includes the City of St. Louis, St. Louis County and the urbanized portions of Madison and St. Clair Counties across the river in Illinois. The 1950 Census population was 1,681,281 and by 1955 it had grown to 1,823,000. The Missouri portion represents 44% of the entire state in population and 3.6% in area.

The 1950 Census of Housing reported 507,123 dwelling units in the metropolitan area and 364,766 of these were one- or two-family homes. By the start of 1955 dwelling units had climbed to 561,700, with about the same proportion for residences.

Metropolitan St. Louis recorded 19,328 OPA rations in 1945 for oilfired residential heating plants and 7,811 commercial central oilheating plants. Of the latter, about half used distillate fuels.

Based on dwelling units rather than individual homes, the 1950 Census of Housing showed this division between central heating fuels:

Coal	220,220
Wood	1,025
Oil	28,650
Gas	75,205

It appears from these figures that oil had made little headway during the five years, while natural gas was clearly leading in installations in the same period, largely because of its low cost.

Estimated new installations of three types of automatic heating in the St. Louis area for the indicated years were:

	Stokers	*Oil*	*Gas*
1952	1,018	4,400	9,108
1953	598	5,073	3,923
1954	555	5,320	4,418

Competitive Fuels

This is one of the few remaining metropolitan area where coal is strong. In the 1950 Census it had two-thirds of the central heating business and today there apparently still are about 200,000 homes and apartments heated with coal in the city and suburbs—a wonderful market for conversions.

Coal is low in fuel cost here. Not too much anthracite—$26.10 a ton—is used. Hand-fired bituminous coal at $15 is popular, while soft coals in the stoker sizes average under $12. These are about 13,000 Btu/lb. fuels. On a cost-per-therm (100,000 Btu) basis, hand-fired bituminous is about 5.8¢ and stoker fuel is 4.6¢.

At the start of 1955 there were 93,800 residential and small commercial heating jobs fired with gas in the metropolitan area. Waiting for new supplies has caused dwindling sales in the last two years, but the utility has done quite a job seeking year-'round customers for higher rate applications, such as water heating.

Gas rate for heating, after the first 4,000 cu. ft. has been used for cooking and other domestic purposes, is 72¢ per Mcf for any quantity within 30,000 cu. ft. and 69¢ for all used over 30,000. Average home would be on the 72¢ rate and, with a Btu content of a little above 1,000 per cu. ft., this figures at about 7¢ a therm.

At the beginning of 1955 it is estimated there were in the St. Louis metropolitan market 63,700 central heating oilburners in residences and small commercial heating applications. Included are about 10% on the Illinois side of the river, with the remainder representing about half of the burners in use in Missouri.

Present tank wagon price of No. 2 oil is 13.9¢ a gal., about 9.9¢ a therm.

Fueloil Distribution

Consensus among suppliers is that central heating distillates burned in the 1953-54 heating season, including the area east of the river, amounted to a little more than 75 million gals., including 2 million gals. of No. 1 oil used in vaporizing furnaces or blended into No. 2 for rotaries. In the 1954-55 season that should be up to a total of 80 million gals., or about 2 million barrels.

The co-operating group of suppliers and marketers estimate that about 82% of the oil coming into the market is supplied by major companies, 18% by independent terminals, brokers, etc. Retail sales are divided about 15% by the majors, 85% by independent marketers. Independents who do not have their own bulk plants account for only about 7% of the companies in the market, sell an estimated 6% of the No. 2 oil.

Fueloil delivery methods in the market have attained a high degree of refinement. Automatic deliveries serve 85% of all heating customers; 74% of all 275-gallon tanks have VENTALARM signals; 12% of total customers use budget plans, but the idea is expected to be considerably stronger in another year.

Market Concentration

The table shows how the business in this market is divided based on the number of independent company trucks. This represents a high degree of concentration, for one-fourth of the companies do nearly 70% of the business. Some of the larger companies have bought smaller ones as they became discouraged with the battle of competitive fuels. Indications are that the strong concentration will continue.

In St. Louis, as in most other larger cities, fueloil is tied up with coal and oilburner business more than with gasoline. Just under two-fifths, 39%, of fueloil men also are in the gasoline business, while 14% sell coal and 52% sell and install oilheating equipment. The St. Louis strength in keeping oilheating progressive in the face of cheap natural gas is partly due to this fine tie-up between burners and oil—the oilmen have a strong self-interest in seeing that burners are sold.

Equipment Sales

Last year fueloil companies sold 33% of all oilheating installations in metropolitan St. Louis, not including burners sold by heating companies who sell fueloil contracts and turn them over to regular oil companies. Plumbing and heating men in general sold 44% of the burners last year and the final 23% was sold by companies whose principal business is oilburner service.

It appears that there is a tendency for fueloil companies to increase their oilburner selling activity—a viewpoint expressed by two-thirds of the marketers and major oilmen who co-operated in this study.

Oilburner Service

Most of the larger fueloil companies have burner service departments and in 1954 they took care of 48% of all oilburners in the metropolitan area. Plumbing and heating dealers not identified with direct fueloil deliveries handled 21% of the service and special burner service companies did 31%. Again the tendency is definite that fueloil marketers are paying more attention to burner service.

In St. Louis 14% of the oilheated homes have annual service contracts, another 34% receive an annual cleaning and tune-up of their oilburning equipment so that nearly half of all oilheating users have their equipment put in top shape at least once a year.

Service contract charges are $31, including parts and $20 without parts, on the average. Annual clean-ups for non-contract customers cost $13, while individual call charges in St. Louis average $5.03 minimum for oil companies and $5.27 when service is rendered by non-oil companies.

St. Louis thus is substantially above national levels for both contract charges and individual call charges.

Advertising Promotion

Advertising by major oil companies has been a little below average of other markets, in the opinion of local people, and, as in other areas, the complaint is heard that too much of the emphasis is on the merits of particular brands rather than on the benefits of oilheating as a better way of life.

About a fourth of the independent marketers have been doing fairly good advertising in such media as radio and billboards. Quite a few of them budget their advertising at so much per account, an average of $1.01. Other marketers who spent a fixed percentage of sales for advertising averaged 1.25%.

The gas industry during the past three years has spent $44,000, $50,000 and $62,000, respectively, in newspaper space. Not all of this by any means was devoted to heating, rather it glorified natural gas as a fuel for all applications.

St. Louis oilmen have sponsored quite consistently a co-operative program. Since 1950 local companies have spent modest amounts in newspaper advertising, to which about 30% of the independent fueloil men contributed. They represented about 63% of the gallonage, however, with contribution basis $150 per million gallons sold. The present fueloil co-operative program, based on raising $7,500, is being supported by much the same companies.

Up to the end of May about $2,400 had been spent in newspapers.

Trucks per Company	*Number of Companies*	*Percent of Companies*	*Total Trucks*	*Percent of Trucks*
10 or over	5	12%	104	52%
6 to 9	5	12	34	17
3 to 5	10	24	34	17
1 and 2	21	52	27	14
Totals	41	100%	199	100%

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Oilheating Market Reports*
—INDIANAPOLIS MARKET

THE INDIANAPOLIS oilheating area includes the city, all of Marion County and about a five-mile overlap into the adjoining counties on the north and south. Statistics in this study, however, are for Marion County only, including the city.

The county had 13% of the state's inhabitants in the 1950 Census, although it occupies only 1% of its area. In the five years since 1950 the county population has grown from 617,400 to 633,438 as of January 1, 1955. And, in the five-year period, it gained 25,519 new dwelling units to reach a total of 197,161.

From the Census of 1950, the following tabulation has been taken to show fuels in centrally-heated dwelling units, not individual homes:

Coal-coke	84,750
Wood	275
Oil	18,805
Gas	10,550
Misc.	2,690
	117,070

During the past five years the city and county have shown phenomenal growth in the acceptance of oilheating. *The Indianapolis Star* conducts a survey each year, based on a fairly wide consumer sampling, which shows that fueloil used for dwelling units of all types—and the figures include centrally-heated or stove-heated units, apartments as well as private homes—has advanced from 34.6% in 1952 to 46.7% in January of 1955. At the same time gas jumped from 5.6% to 9.4% and coal or coke declined from 58.3% to 41.8%.

From figures of dwellings supplied for January 1955 have been deducted 14.7% for multiple dwelling units and 25.1% for dwellings without central heating. Thus, the following tabulation has been compiled of centrally-heated one- and two-family homes:

Coal-coke	52,600
Fueloil	58,800
Gas	11,800
Other	2,700
	125,900

To the fueloil figure should be added an estimated 4,060 commercial and apartment heating accounts, making a total of 62,860 central heating oil customers of the general No. 2 oil type. Indianapolis and the county represent about 43% of the state's total. At the time of OPA rations ten years ago this market was 26% of the state.

Competitive Fuels

A lot of coal still is burned in the market, which represents a fruitful source of conversion burner sales. Large combination coal and oil dealers estimate that the average price paid for 13,000 Btu/lb. coal, either hand-fired or stoker sizes, is $15, 7.3¢ a therm or 100,000 Btu.

The Citizens Gas Co. in Indianapolis is municipally owned and distributes a mixed gas of 625 Btu/cu. ft. and has announced that this fall it will raise the Btu content to 800.

Cost of gas for heating is affected by a bracketed rate structure, but will average about 65¢ per Mcf for the 625 Btu fuel —10.4¢ per therm.

It is important to recognize that new installations of gas heating in the city and county in 1954 were about the same as new oil installations. *The Indianapolis Star* study shows a gain in gas heating users from January 1954 to January 1955 of 2.1% of all dwelling units, approximately 3,900. Oilheating in the same study gained 2.2%, or about 4,100 new users.

No. 2 heating oil in this market sells at 14.6¢ a gal., which figures at 10.4¢ a therm or just the same as the average gas rate on a Btu basis.

Fueloil Distribution

An estimated 75% of oil coming into the market is through major companies, the balance from the local Rock Island refinery and from Ohio River and pipeline terminals of independent suppliers. Major companies sell about 34% of No. 2 heating oils at retail, including sales of their commission agents. Without these, their direct sales are 24% of the market.

Based on normal degree-days, demand for furnace oil in the city and county the past season would have been 90,549,260 gals. Since the season was 2% colder than normal, true demand for last season was upward of 92 million gals. or 2 1/5 million barrels. Rather than all No. 2 oil this is central heating fuel of the middle distillates. The Indianapolis market uses No. 1 fuel in rotary and a few of the vaporizing furnaces and that is included in the estimate —probably as much as 10%.

Some 37% of the independent marketers in the area buy fueloil "under the fill," but they sell only 17% of the total product. Automatic deliveries cover 82% of the users, only 5% of the tanks are equipped with automatic fill signals and monthly budget plans accommodate 14%, but this idea is gaining momentum.

Only 27% of the fueloil marketers in Indianapolis sell gasoline; 40% of them sell coal and a meager 14% sell oilburners.

Market Concentration

Indianapolis fueloil distribution is highly concentrated, with 76 companies selling to the consumer, including four majors, but 16 of these companies have 71% of the business, again including the majors who tally 24%.

The table includes the majors, who were credited with 66 trucks. As the table stands the average is 4.2 trucks per company. Remove the majors and the average drops to 3.5 each.

Oilheating Sales

During 1954 an estimated 11% of the new oilheating installations was sold by oil companies; only three of the more prominent oil firms sold burners, while others had tie-ups and working commitments with heating people. One of the reasons why oilmen dodged the burner business is explained by the fact that three well-known furnace firms—Hall-Neal, Rybolt and Peerless—are located in Indianapolis and oilmen feel they can't compete on price with these factories.

Local plumbing and heating companies, including these plants, did 53% of the 1954 oilheating installations; the other 36% went to oilheating equipment and service dealers who do not sell fueloils.

A definite feeling can be detected, however, that oil men are swinging more and more in the direction of selling oilburners. Four out of five voted that this is the trend and 73% agreed that oil men are taking more interest in burner service.

Oilheating Service

Oil companies supply 13% of the oilburner service in the market, plumbing and heating companies, including the factories, do 47% and burner specialists, 40%. About 16% of the homes have annual service contracts and another 37% buys a yearly tune-up and overhaul so that 53% of the jobs get a good going over at least once a year.

Service charges are on the high side: Contracts, including parts, cost $32; those without parts, $18; annual tune-up, not on contract, sells for $11; minimum call charge for non-contract customers runs about $5.84 from oil companies, $6.16 from non-oil companies.

Advertising Promotion

Major oil companies have done a moderate job of advertising oilheating and fueloil under their own brands, about two-thirds of the participating dealers feel, but nearly all agree that four-fifths of the emphasis has been on brand, rather than on the glorification of oilheating.

About a fourth of the independent oil companies have advertised this season in newspapers, radio, billboards and the like. Some of them figure advertising budgets for fueloil at so much per existing account and that group averaged $1.39. Among those who prefer to work in terms of a ratio to gross sales for advertising, the figure runs close to 2.5%.

The gas utility began an impressive series of ads this spring that, while they promote in all its application, have considerable impact on heating. Having crawled up to a 50-50 position with oil on both price and current ratio of installations, it's apparent they are going after the business. Oil men generally don't feel that the richer gas for next fall at 800 Btu heat content will carry a full price increase.

Prior to this year there has been no joint effort in advertising oilheating. A new fueloil promotional program has just been organized for 1955, designed to spend $50,000 a year for three years. Of this amount, $30,000, or 60%, has been subscribed by leading independent companies, with the supplying companies being requested to subscribe the balance. Marketers are to pay monthly amounts, ranging from $50 to $200 based very approximately on the size of their businesses.

Trucks delivering No. 2 fueloil	*No. of companies operating within classification*	*Percent of companies to total*	*Total trucks represented*	*Percent of total number of trucks*
10 or more	9	12%	176	55%
6 to 9	7	9	52	16
3 to 5	6	8	24	8
1 or 2	54	71	66	21
Totals	76	100%	318	100%

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Giant Burners to small Coolers

Enterprise of Chicago profits from Comfort at both Ends

"HOT OR COLD, they're still Btu's," in the viewpoint of Harry Shaffer, partner in the old established firm of Enterprise Heat and Power Co., Chicago. What Shaffer means is that the principal reason for the existence of an oilheating business is to supply warmth for comfort but that you can be fully as uncomfortable in the summer months when nobody needs to burn oil. But his salesmen and their families need to burn groceries in those months too, and a little cash is useful.

How many years ago Enterprise started in business we failed to ask but it was a long time. The company, selling principally Enterprise burners made in San Francisco, has a corps of engineers on the heavy work. A lot of Chicago's largest buildings are heated by burners from Shaffer's company; some well known ones are the Palmer House, Hotel Sherman and the new huge Prudential Life Building.

That, you might say, is a business in itself. So it is, but it has one serious drawback that the big burner dealers have been seeking in a number of ways to overcome. According to Shaffer, it's a feast or famine business. The individual sales are large, running way up into the thousands of dollars each, some upward of $100,000.

Steam generator *in the background shows the nice contrast in Enterprise's business. Harry Shaffer, partner in Enterprise, and M. S. Simon, sales manager, airconditioning, stand next to the "little" equipment, a self-contained airconditioner.*

Get a few of these installations contracted for and you're pretty well loaded for some weeks with all your engineers can do. But miss a few of them because prices are too tight and you'll find yourself for some weeks raising the payrolls for an expensive staff that's not busy.

Such a business needs a "filler-inner," a pot boiler, and shaffer finds cooling a real help. It was just after V-J Day or in early 1946 that Enterprise took on a line of large commercial cooling manufactured by Carrier. It has been a good business, helping to fill quite a lot of valleys.

But in recent times it has been residential cooling that has sparked the imagination of the Enterprise crowd. They believe it is going to be big, very much bigger than its apparent slow start would indicate to many business men. And they believe they have found a way to sell it.

Window units can be sold as appliances by appliance methods. Many of them are bought over the counter and total purchases in the nation run a million a year, more or less. But the central cooling plants to handle the full house run to only a hundred thousand a year. Many men in the industry are convinced that the little units will whet appetites to want complete jobs.

Shaffer started modestly with the home units in 1953, put in 25 jobs to learn where the headaches were. The next season, 1954, he sold 300 complete home jobs, and as this is being written in early July it looks like 1955 will run well over 400. That's better than $400,000 worth of business. For a sideline, not bad.

How are they sold? By almost the same specialty methods that we used to build up the oilheating industry back in the '20s and '30s. Of course the original appeal is to human comfort, but oddly enough that is not how most of them are sold.

Telephone canvassing starts early in the year. A fifth of the jobs are actually sold in April . . . then another fifth in May and 40% in June. The final 20% is scattered. If July is hot you'll find impulse buying.

When the canvasser gets some leads for the men they go out and make a thorough survey and try for the sale. Notice that the survey is made before the job is figured because it's hard to guess right. One ton of cooling may handle 700 sq. ft. of floor area or may drop to 400 ft.

The strongest urge that the men have found in buying cooling is the social one, the impulse of pride, adequacy or whatever you may call it.

When a salesman gets a key instal-

lation in a good neighborhood, he's in business. It's the ladies that make these buying decisions, although men are getting more tractable each year on account of their airconditioned offices in the large cities.

So the salesman puts one in and the lady of the house is delighted. She gets in the neighbors, maybe casually for a cup of coffee, but she gets the word around. First thing you know it's time for the bridge club again and it's Mrs. Jackson's turn over across the park. It's a hot day and some of the girls get on the phone and start hinting to hold the party over at Mabel's, "because she has that cooling business and her house is so much more comfortable." That does it. Mrs. Jackson is practically a push-over for a cooling installation. And so it goes.

Out of one installation an Enterprise salesman sold nine more jobs and every one to the lady's social acquaintances. The company gives nice housekeeping items to the users for leads that bring sales. And since the average sale is $1,000 they can afford something decent, like a Mixmaster. Almost never is there competition on the sales that these men create.

Sales terms are easy. A homeowner can get by with no down payment and as long as five years if he needs it. A few are sold by adding the price to open-end mortgages. The men tell the prospects that the installations will pay for themselves. They save cleaning, buying screens, and the family instead of going out for summer evenings stays at home and watches TV.

Very few sales are made to new homes. Old homes are featured. Shaffer says you have 44 million old ones to one million new ones in a year, so there's your market. Not only that, but folks buying new homes are usually stretched out for credit and hard to convince.

Being in the industrial field, Enterprise is engineering minded. A lot of study is given to the jobs. Last summer the company hired a few embryo engineers from the University of Illinois to study the jobs that had been in use for some months. Sometimes they would spend a full day in a home, watching and checking.

One thing they discovered is that humidity is fully as important as cooling, not only theoretically but in practice. Good dry air with only sensible cooling, rather than extreme, seems to please Chicago families most. Accordingly the company now undersizes its jobs just slightly, to keep the unit operating more hours of the day. If it operates constantly on the hottest day of the season the family gets extra dry air and is much pleased.

Shaffer has a philosophy that oilheating companies are the best sales outlets for home cooling jobs. He says he's watched all kinds come and go, but the fueloil and oilburner man sticks with it and sells the most. Seasonally, airconditioning is a natural offset to the fueloil peak of the winter and the oilburner peak of late summer and fall. What other product can you think of that involves the same general kind of surveys, selling and installing that we have with oilheating and, best of all, reaches its peak in April, May and June?

The Enterprise folks have voted for home cooling and they have learned to like it so much that even some of their high-hat industrial oilburner men will sell these residential jobs in the peak months.

An unique *airconditioning training program is conducted by Enterprise Heat & Power. Sales engineers are taught about the construction, component parts, operation procedures and installation of three basic airconditioning lines, including Shana's residential water-cooled or air-cooled models.*

The course is under the direction of Morton Simon and Richard Lassar who says that each representative of Enterprise must be familiar with all operating costs, instruction and service elements that go with each airconditioning unit. Instruction manuals for the three brands of equipment are used as a basis for technical knowledge.

"In addition to a world of new technical knowledge, residential airconditioning involves an entirely different psychological approach," Simon said, "and that is one of the principal reasons for these schools."

All manufacturers of airconditioners handled by Enterprise cooperate and participate in the school with specialized literature and simplified engineering manuals. For example, Shana has prepared a kit that includes brochures on the healthful aspects of cooling; installation manuals written so that any serviceman can understand them plus consumer literature showing different applications of cooling.

The program has taken more than a year to prepare and 25 men attended the five day school. Special vinyl records have been prepared which provide additional technical knowledge. These are studied in conjunction with special installation and sales manuals.

Heating Controls Lab Visit

BECAUSE OF THE definitely scientific nature of the automatic control industry the development laboratories must take a prominent spot. A visit at mid-July to the Honeywell lab at Hopkins, Minnesota, provided an extremely interesting day and among other things resulted in our getting the photograph shown on the cover of this issue.

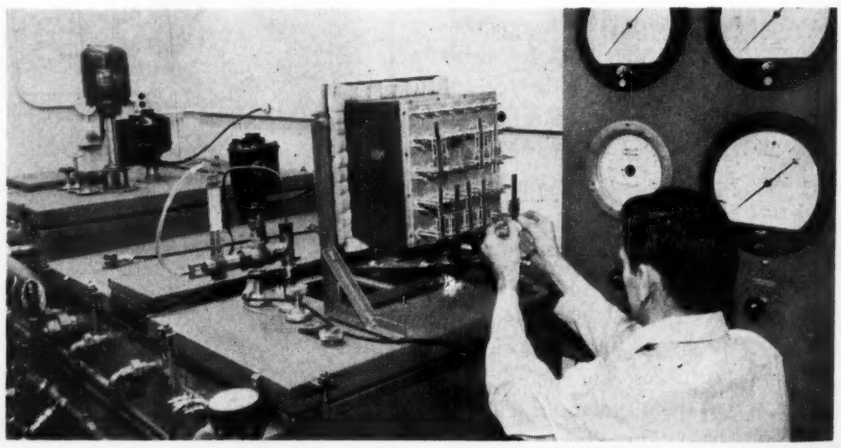
The device illustrated there is known as a house heating analog or electronic "brain" that greatly speeds home comfort research by artificially emulating all sorts of residential construction and atmospheric conditions.

Pull one of the plugs and you've taken off the storm windows . . . push another and you've added brick veneer . . . a third will switch you from oil to electric radiant heating. It's a fabulous contraption that saves building experimental homes.

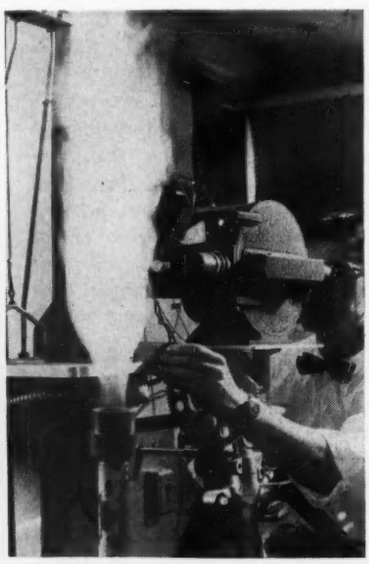
The photos on this page bring you an impression of some of the things we saw on the visit. This particular laboratory is concerned mostly with theoretical or "pure " research and not with product development or application . . . that's an engineering department job.

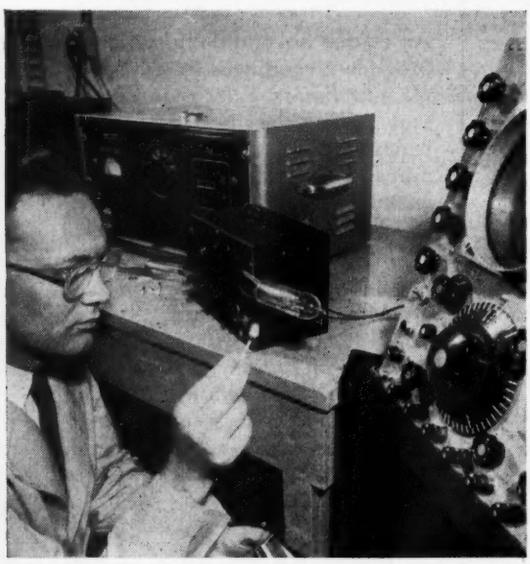
Dr. Finn Larsen

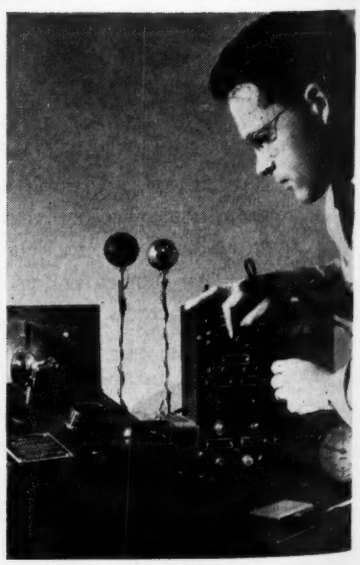
Dr. Larsen, who heads the staff of 200 scientists in this building, feels that even after milleniums of use man doesn't yet understand much about flames, even less about the fine points of human comfort.



Atmosphere chamber *(right) in which virtually any weather condition can be created to test and improve experimental humidity detecting elements.*







Some aspects *of research undertaken at Honeywell's laboratory. Above left shows how characteristics of flames are studied and photographed on special cameras. Then tube studies shown in the center panel have led to the development of new photo cells for electronic flame detection systems. The third photo, at the right, illustrates the study of the effect of mean radiant temperature on human comfort using two-sphere radiometer.*

OILHEATING FOR BUILDERS

Part III. Prefabricated Housing and the Opportunity it offers to Oilheating

by
Irwin Jalonack*

THE TWO PREVIOUS ARTICLES in this series have dealt with the advantages to a builder if he uses oil heat and some suggestions on how to sell him. What has been said applies equally well to prefabricated housing.

This branch of the home building industry has been going ahead by leaps and bounds and is now a real factor in home building. There is a very strong chance that it will be even a bigger factor as it continues to develop pleasing and economical designs. It therefore behooves the oilburning industry to study closely the "pre-fab" opera-

Admiral Homes, Inc.

tion and to identify oil heat with prefabricated housing. This can work to mutual advantage.

To understand the benefit of oilheating to the prefabricator, one must understand his problem. As a manufacturer he is attempting to standardize his house design. The standardization must be carefully planned. The houses must not be all exactly alike nor in the same price class. The manufacturer must offer various models and as can be seen they vary widely. There are contemporary types and conventional types and many combinations of floor plans. However, if there is to be economy in manufacturing, many of the basic house elements must be the same in all houses.

Thus the heating system should be the same type in every house made by one company. This does not mean that a bigger house doesn't get a bigger system, but it does mean that here is a place where the house builder deals with one manufacturer and can standardize the various parts and the installation. This permits, in general, better prices on purchasing and lower labor costs since a familiar operation takes considerably less time than a strange one or one not so familiar.

This then brings us to the subject of fuel for the prefabricators' house. There is no place in the United States where heating is required that fueloil is not available. This cannot be said of electricity or gas. Near many large cities there are no gas mains and frequently even where gas is available, the distribution piping is so taxed that no additional load can be imposed.

Therefore it should be apparent that if oil is to be the fuel, the prefabricator can settle on his heating system and work it down to the most efficient and economical point. We have shown that it is not possible for the "prefabber" to standardize on gas and we have shown that it is possible to standardize on oil. Any attempt to offer optional fuel must prove costly to the manufacturer. Essentially he is mass-producing and the basis of mass-production is standardization.

As to how to sell the pre-fabricator, this calls for some consideration. The dealer in a locality where the home is to be erected cannot expect to obtain the sale of heating equipment. The equipment obviously will be purchased by the prefabricator at his plant site. The local dealer, however, can secure the service and fueloil business. In an area where "prefabbed" houses are being erected, the local dealer should stimulate the burner manufacturer and stir him up to go after this business.

Obtaining heating equipment business for a prefabricator cannot be a simple process. In many respects it is similar to obtaining business from a mass-producer of houses in that a volume price is part of the picture and the engineering phases are apt to be delved into quite deeply. When one considers that some prefabricators are already into volumes upwards of 15,000 homes per year, a sense of appreciation develops quickly.

The oilburner manufacturer requires capable application talent to even approach the house manufactur-

National Homes Corp.

er. The oilburner might be perfection itself but unless the presentation takes into consideration the entire heating problem and the application of the equipment, it cannot be successful. Since good engineers are seldom top notch salesmen (though they think they are) it means that smart salesmanship must team up with smart engineering to do a job.

Not to be overlooked in the general picture of selling the mass home producer—whether he be a prefabricator or not—is the benefit, design-wise,

Jalonack

*Jalonack retired this year as vice president in charge of construction for Levitt and Sons, the nation's largest home builders. He is now serving as a consultant to several clients identified with building and also with FHA in Washington.

Pease Homes Div.

which can accrue to the oilburner manufacturer. The suggestions or requirements which are made frequently result in an improved or a more practical design. The table top boiler, for instance, was an outgrowth of a manufacturer trying to accommodate a potentially large user. Size and noise level requirements were unique, but under the stimulation of a large order the needed unit was developed. It subsequently proved quite popular and considerable unexpected business materialized.

This type of stimulation is good for the manufacturer's well-being as his efforts usually are on manufacturing techniques and application engineering is neglected. The mass buyer wants installation made easy and economical. Once the manufacturer achieves this for him, he automatically does the same thing for the rest of his life.

To recapitulate briefly on this and the foregoing articles:

The whole heating system has to be sold rather than just a burner and the sales thinking must concentrate on what the purchasers' requirements and desires are, rather than what would please the seller.

Modular Homes, Inc.

Advantage must be taken of allied interests, such as electric cooking and wet type distribution systems, as pointed out in the previous articles.

Sales effort must be imaginative and aggressive, taking advantage of every weakness in the competitive fuel's armor. This induces enlisting the home sellers' sales force.

The nice thing about selling to a builder has always been that a single sale resulted in considerable volume. This is still true, but look what happens when one of the big prefabricators is sold—a single year's volume could be 20,000 units.

Humidifier Association has Plan for increasing Sales

THE FORWARD LOOKING heating contractor should not overlook the opportunity for extra profits to be found in the sale of accessory items such as the furnace humidifier.

The dealer can sell humidifiers not only on every new furnace he sells, but he can sell them as an extra on already existing warm air heating systems. In addition, humidifiers are available for steam and hot water systems. Approached from the angle of its winter airconditioning comfort benefits, the humidifier has a great deal of selling potential which the alert dealer can capitalize on through aggressive promotional programs.

To promote humidifiers and make contacts that eventually lead to sales, here are a few of the methods other dealers have found successful:

1. Get as much promotional sales material from the manufacturer which includes eye-catching counter-display units, literature, circulars and related items. Mats are often available from the manufacturer for newspaper promotion.

2. Work with people in related fields—get builders and designers interested in including humidifiers in their building plans. An accessory like the humidifier included in the home makes the home more salable on today's competitive market.

3. Display a humidifier on your counter or in your show window. Set it up so that it attracts the passer-by.

4. Coordinate your system for getting leads and following them up. Many dealers advertise in newspapers and report that they receive a great many inquiries that lead to sales—every lead is followed up within 24 hours. Other dealers have had success in the use of personal telephone solicitations and direct-mail programs to their prospect lists.

Quite often a dealer can get many leads through service calls. Whenever one of his servicemen goes out on a service call, he takes with him several humidifiers. As he services the furnace, he checks to see if it has a humidifier. If it doesn't, he has a chance to interest the customer in having one installed.

The mineral content in the water in several sections of the country sometimes causes humidifiers to clog up. This happens often where hard water is used. Many dealers give a service guarantee for a specified fee per year. If the water contains a lot of minerals, a humidifier may need servicing often as much as once every three months.

You can obtain more information about the benefits to the customer of humidified air by writing for the free folder entitled, "How proper Humidity protects your Health and Increases your Comfort," from the Humidifier Association, 2300 Payne Avenue, Cleveland 14, Ohio.

❖

Dadson Club planning third social Evening

THE THIRD GET-TOGETHER of the Dadson Club is scheduled for September 20 in New York City. The Club, composed of fathers and sons who are active in the oilheating industry, was formed two years ago to provide periodic gatherings for social relaxation.

Any father and son combination who can qualify is eligible to attend. Persons interested should contact Dan Bierman, Liquidepth Indicators, Inc., Long Island City, N. Y., who promises that this year's event will be a really big evening.

Coan Brothers, *fueloil and burner dealer in Natick, Mass., received this letter from New England's largest builder of new homes, Campanelli Brothers. In Massachusetts the company has built or is building developments in Braintree, Framingham, Holbrook, Natick, Newton, Peabody and Wayland, as well as 1,500 homes in Rhode Island.*

CAMPANELLI BROS. INC.

SIXTY-ONE THORNY LEA TERRACE
BROCKTON, MASSACHUSETTS

June 6, 1955

Coan Brothers
40 East Central Street
Natick, Massachusetts

Dear Fran:

I am more than happy to answer your recent letter in which you asked me why Campanelli Brothers have chosen oil heat over all other types for the thousands of homes that we have built and are continuing to build both in the Natick and Framingham area and other sections of New England.

We are proud of the fact that we are the largest builders of homes in New England and we have been able to gain this distinction because we never cease in our efforts to give the prospective home owner a quality built home at an economical price.

Since we are interested in the people who purchase the homes that we build long after they have purchased them, it is only reasonable to expect that we have and will continue to install oil heat in preference to all others, both for home heating and for heating domestic hot water because our long experience has taught us that it continues to be clean, safe, reliable and economical.

We expect to continue building homes in the area your organization serves for a long while to come and are planning to continue installing dependable oil heat.

Sincerely yours,

CAMPANELLI BROTHERS, INC.

Michael Campanelli

Michael Campanelli

Motor and pump Alignment

Often overlooked, this Aspect of oilburner Construction can reduce Vibration

by
Wm. F. Klockau*

While various manufacturers use other approaches in solving the problems described by Mr. Klockau, this article is published as the viewpoint of a successful operator.

IN DESIGNING AN OILBURNER, the engineer has several choices open to him in selecting the materials and method of construction of the blower housing. This part is most important inasmuch as it supports all the major parts of an oilburner and contributes greatly to its performance.

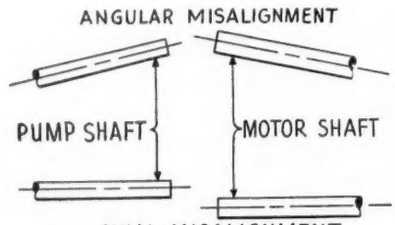
One of the important functions of the blower housing is to hold the motor and the pump in close alignment throughout the life of the burner. This is important even though there are available very good flexible couplings which will take up misalignment.

Figure 1 shows two types of misalignment, both of which are undesirable even with the good flexible coupling. This condition can cause noise, vibration, and shorten the pump life. In some extreme cases, it can even affect the life of the motor itself.

From time to time, burners have been taken from the field and examined for shaft alignment. Samples from other manufacturers have also been examined for this condition. Studies were made of pressed steel housings, built up sheet metal housings, die cast aluminum alloy housings, cast iron housings, and sand cast aluminum housings. Some of the above lend themselves best to high production and others to low cost. In some cases, it is extremely difficult to obtain good shaft alignment to begin with, and in others, it is difficult to maintain alignment over long periods of time. In some cases machining is a problem and in others, good finish for appearance is the problem.

*President, Nu-Way Corp., Rock Island, Ill.

Sand cast aluminum housings, when molded in two halves and pinned together under hydraulic pressure which expands the pins into the holes, has several advantages. In the first place, the castings can be made without cores and therefore a much smoother finish can be obtained. The surface of an aluminum casting is much smoother than iron and the weight of aluminum is such that it is desirable on many applications, especially when flange mounted on furnaces. Aluminum sand castings having wall thickness of



(FIG.1)

3/16 or better give an oilburner a very sturdy construction and quieter operation than thinner sections of other metals. It lends itself also to good machining and lifetime stability as opposed to other materials and construction. Creep or deformation is much more likely in sheet metal, steel stamping, or die cast housings.

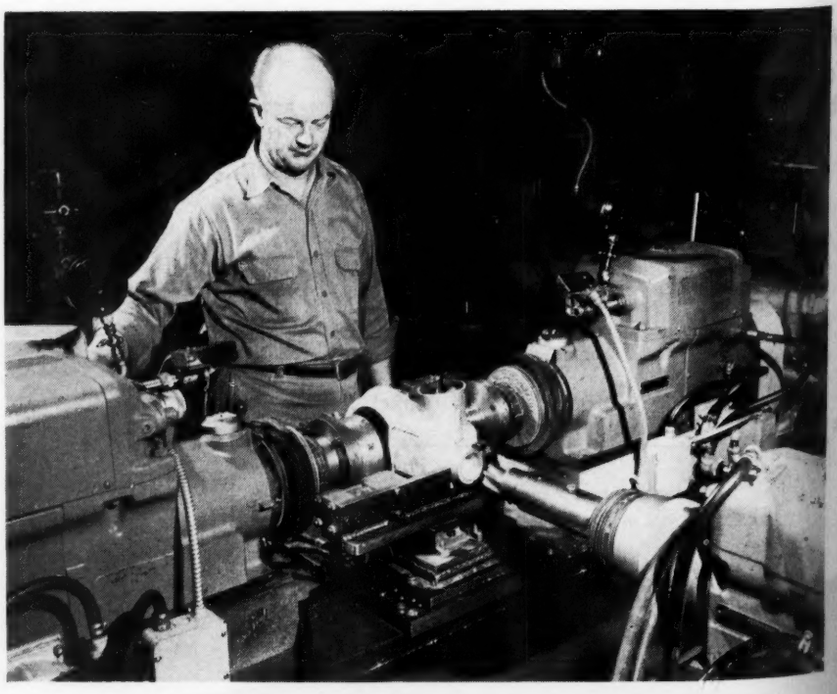
Accurate machining of both pump and motor mountings is equally as important as proper housing design. Most suppliers of oilburner pumps and motors hold extremely close tolerances on the concentricity of shaft to mounting pilot and on pilot diameters. These tolerances give the burner manufacturer a higher than necessary accuracy for satisfactory alignment.

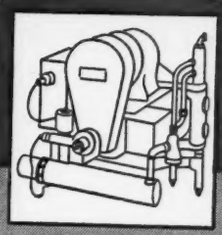
While it is possible to machine the housing components separately before assembly, it is much more accurate, and in fact faster, if the component parts are assembled first and then machined as one unit.

Oilburner housings can be machined in a number of different ways, however, most of them require several machine set-ups to finish the job. And, these multiple set-ups are expensive and frequently result in errors.

(*Please turn to page* 163)

Boring machine *developed by Nu-Way, designed to insure perfect alignment of oilburner motor and pump shafts. The machine finishes motor and pump housing simultaneously by the heads at each end, while a third head in the rear taps the base mounting hole.*





COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Selling Burners for No. 4 and 5 Fueloil

Opportunities exist for Dealers to expand into small commercial Applications

by
Frank M. Wymbs*

There are at least two sides to every argument and every so often we present one side, knowing full well that not everyone will agree with all of it.

According to an old English law the seller is expected to "add on." Be that as it may, few men in the country are better at selling this particular type of equipment than Frank Wymbs and that reason alone would be sufficient to make the following article valuable.

It's particularly timely, too, because gun type burners which can use No. 4 or 5 oil have been added recently to the lines of several other manufacturers.

IN THE PAST, the oilheating industry did an excellent job of selling the use of distillate fueloils, especially No. 2, for home heating. The industry went on from there to promote the use of heating oils in somewhat larger buildings: small apartments, schools, and churches, commercial structures of all sorts. It is not unusual, as a matter of fact, to find equipment for No. 2 oil applied to buildings using substantial quantities of oil—say, burner capacities between ten and 20 gph.

Today, economic pressure from two directions is changing oil heating practice in such applications. We refer to competition from heavier fueloils and from natural gas.

The situation might be compared to what happened to anthracite markets when prices for that fuel began to rise sharply. In smaller buildings, the oilheating industry seized the opportunity to introduce burners for light oil. In larger buildings, either the bituminous coal stoker or industrial oilburners took over. As a result, anthracite is no longer a major competitor in this field.

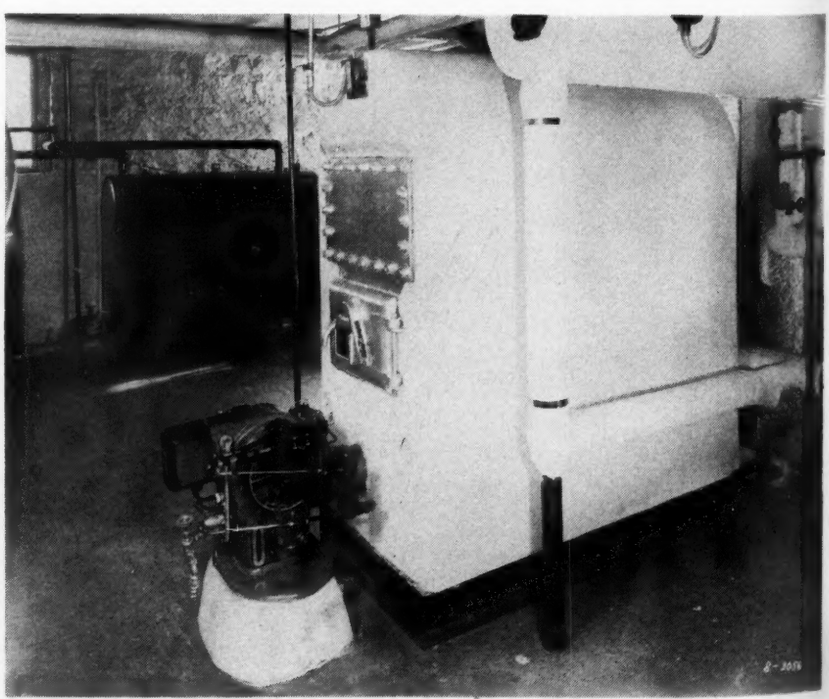
A similar situation exists today with respect to light oil, and the challenge is presented to the fueloil dealer to save this market for oil or to see it converted to natural gas.

The solution, of course, is heavy oil. For example, the United States Naval Training Station at Bainbridge, Md., converted 194 stoker-fired boilers to No. 5 oil in 1954. This is part of a now well-established trend.

Take the case of a fuel dealer who started in business in 1920. Coal sales started to drop as early as 1925, and he added light oil. Profits were off, naturally, during the depression, but in the war years coal rose a bit as some consumers reconverted to coal, and light oil profits consequently fell off somewhat.

After World War II light oil soared again, and coal profits began to drop almost to the vanishing point. This dealer was surprised to find his light oil profits falling again in 1949-1950; he investigated the possibilities of heavy oil, with the result that he again increased his line of merchandise and saw his profits climb sharply due to the wider and wider use of this fuel.

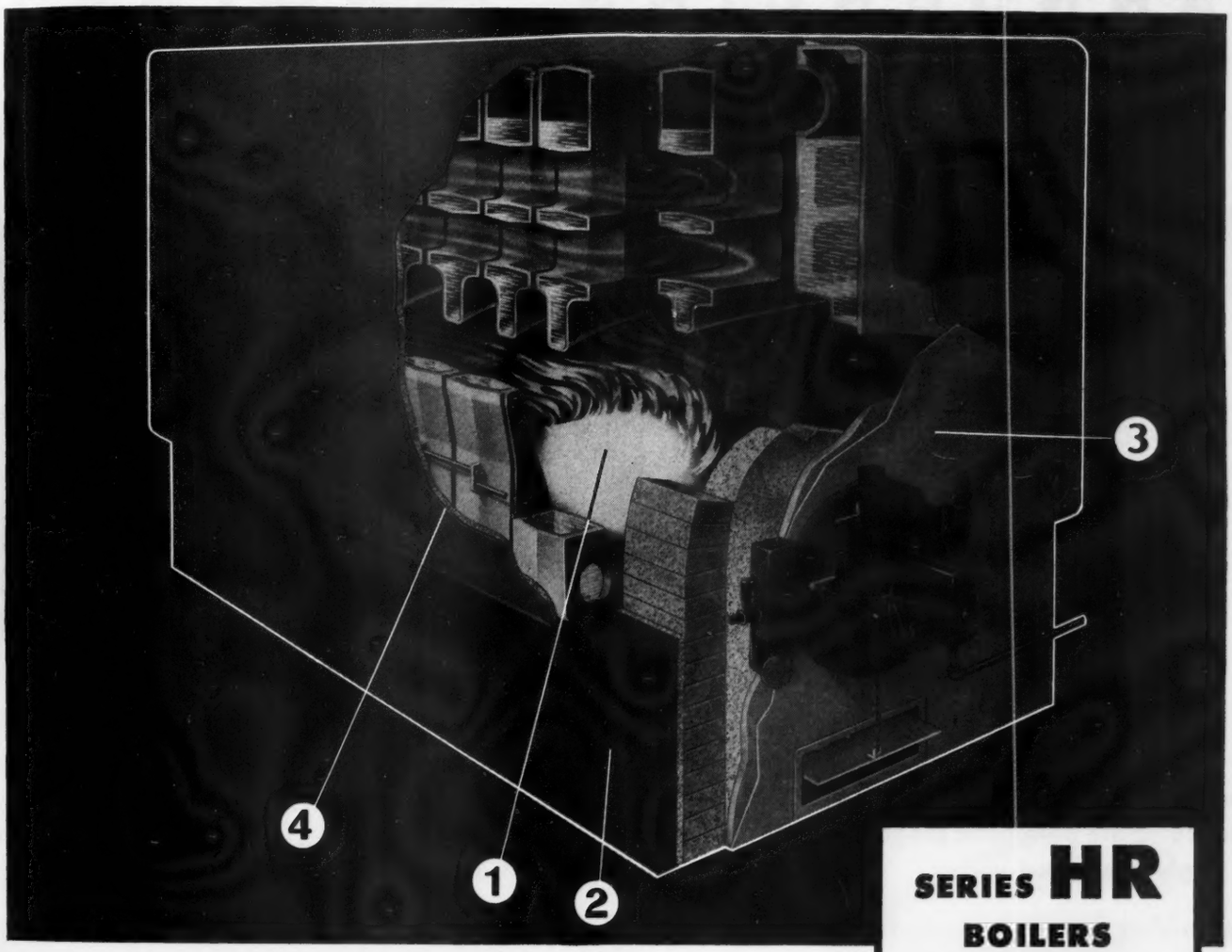
Frank M. Wymbs



A Cleaver-Brooks *Hev-E-Oil burner installed in a system with a basement tank and burning No. 4 fueloil.*

*Hev-E-Oil Burner Distributors, New York, N. Y.

THE FIRST *CAST IRON* BOILER DESIGNED SPECIFICALLY FOR HORIZONTAL ROTARY OIL BURNERS!



SERIES HR BOILERS FOR BURNERS USING HEAVY OILS

FEATURES!

1. Large fire box volume develops better combustion conditions and maximum radiant heat transfer.
2. High base makes more combustion space available—eliminates high brick foundation.
3. Special steel front plate simplifies installation of rotary burners. Openings can be cut at factory for specific makes.
4. Green enameled steel jacket lined with thick blanket of fibre glass—saves insulating time.

WEIL-McLAIN

PRESENTS A HEAVY DUTY BOILER DESIGNED IN COOPERATION WITH LEADING MAKERS OF ROTARY OIL BURNERS

In the "HR Series," Weil-McLain makes a revolutionary advance in boiler design...an ASME constructed *cast iron* unit engineered to provide the best operating conditions for horizontal rotary oil burners!

The cut-away above illustrates the major features which make the "HR" completely outstanding in performance when fired with burners using heavy oil.

Note also the other Weil-McLain features which contribute to exceptionally high overall efficiency. The curved primary heating surface increases the area directly over the fire...large waterways assure rapid circulation...back and forth, balanced flue gas travel distributes heat equally to all secondary heating surfaces...sectional construction with short draw-rods simplifies erection.

Get the facts—write today for complete engineering data.

WEIL-McLAIN
BOILERS · RADIATORS

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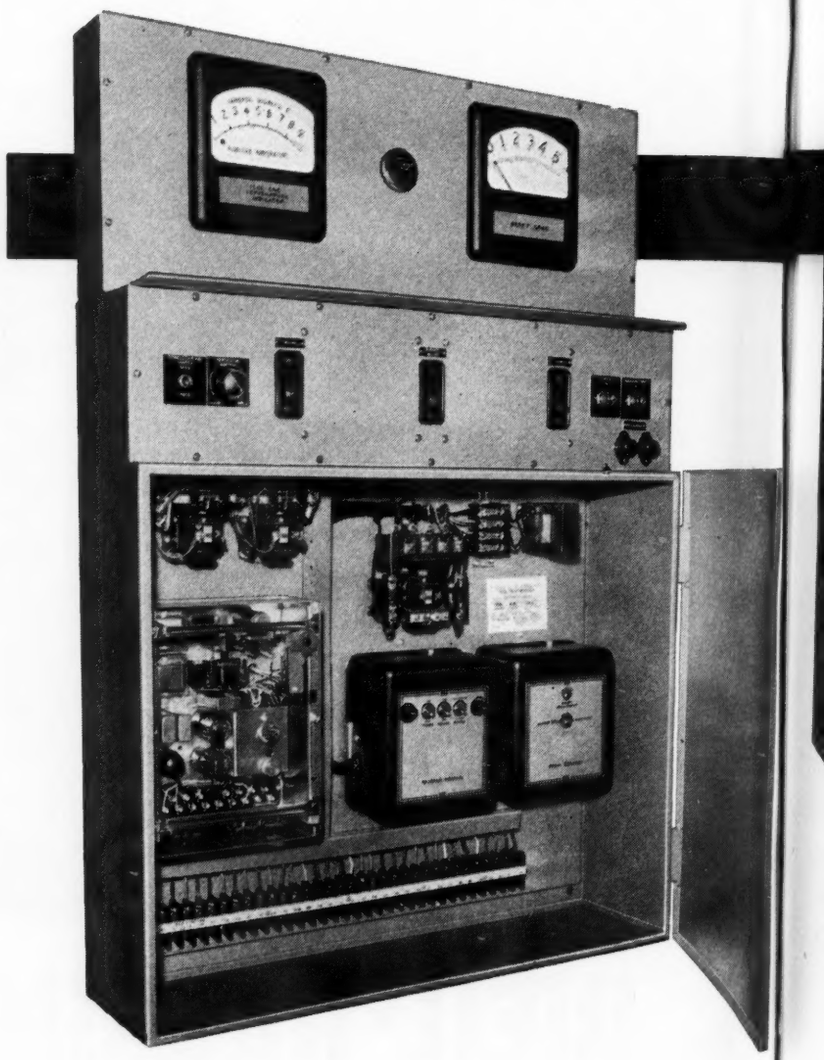
MICHIGAN CITY, INDIANA

Address literature requests to Dept. B-85.

ANNOUNCING ANOTHER

NEW Line of "Packaged" Control Systems for Automatic Burners



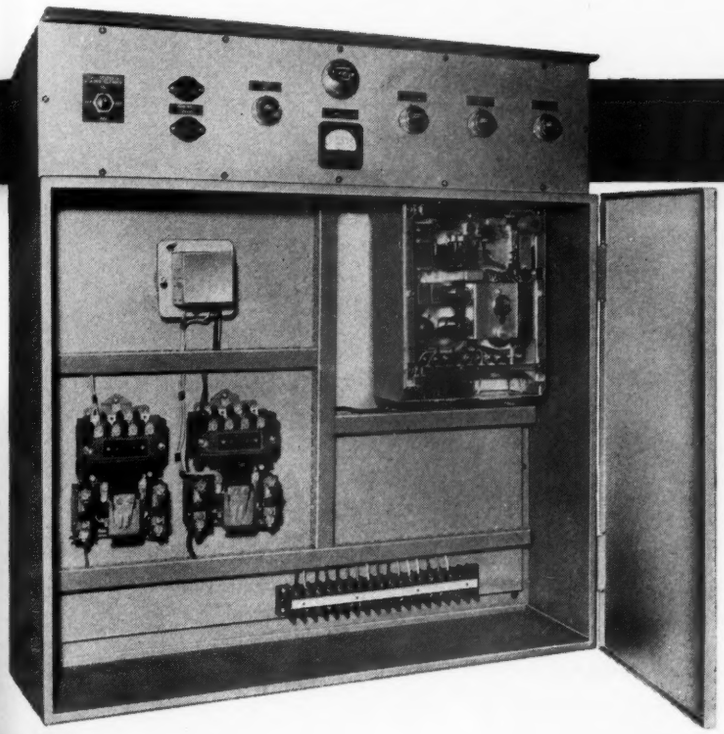
You get Fireye Flame Failure Protection plus complete automatic programming in a single integrated unit.

Assembled and tested by factory experts to minimize installation time and costs, and assure dependable performance.

SAY GOODBYE to wiring problems! With these new factory-wired control systems, Fireye has licked one of your costliest installation headaches. In one "package" you get everything you need. All you do is make a few simple connections to a labeled terminal strip (instead of wiring countless individual components) and your job is done. No chance for wrong wiring, poor connections, or time-consuming "confusion". Your men get jobs done faster . . . your costs are lowered . . . your customers are assured of trouble-free control systems, factory-tested and approved.

In offering these new systems, Fireye fulfills a need for "standardization" of wiring practices that has resulted from the increased use of burners arranged for automatic ignition and programming. Fireye engineers with their broad knowledge of the burner industry's requirements were in an ideal position to assume this responsibility. Again you have proof that Fireye is First and Foremost in modern combustion safeguards! Send for literature.

fireye FIRST



IN A SINGLE UNIT YOU GET EVERYTHING YOU NEED—

Fireye primary controls, short-circuit protection, motor starters, fuel selector switches, signal lights. Also, any needed optional equipment such as sequence draft controls, draft and temperature indicators.

NEW fireye Automatic Gas Valve

AT LAST — a positive action automatic gas shut-off valve! Exclusive shearing action assures positive closure even if pipe scale or welding beads lodge on the valve seat. Also, exclusive double safety release feature assures reliability of closure for over a million cycles of operation, without maintenance. Available in packaged Fireye systems . . . or separately.

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☐ Send literature on Fireye "packaged" control systems for automatic burners.

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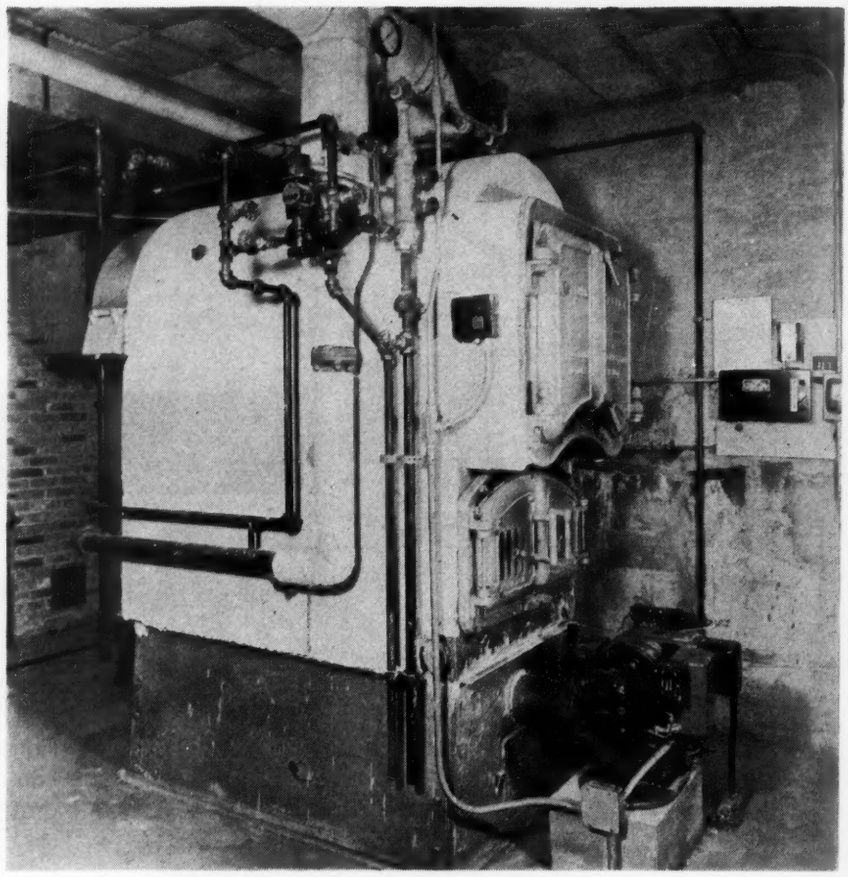

Another typical *Hev-E-Oil burner installation, designed to burn the heavier grades of fueloil.*

The market for No. 4 and No. 5 oil is great, and there is an abundance of these fuels available. Of course, there may be a town here and there where local storage or transportation facilities have not yet made them obtainable, at least not in the particular specifications needed for small commercial burners.

However, with but little equipment, a dealer can set up a small blending plant in which No. 6 and No. 2 oils may be mixed, in proper proportions and at suitable temperatures for permanent admixture, to produce a No. 5 oil with medium viscosity and low cold test which can be sold at a price to bring a satisfactory dealer profit.

The dealer has only to bring the product to the market, and if he will look around he will be amazed at the possibilities of sales awaiting him. One company in Brooklyn, N. Y., has made a number of installations with two 275 gal. tanks; this dealer charges one cent a gallon more than for drops in larger tanks, and claims he makes more profit on No. 4 oil than on No. 2. When competition comes in with a low price, he can do better with a No. 4 installation and keep up his oil gallonage—and still save money for his customers.

Installation of burners using Nos. 4 and 5 oil has added substantial gallonage to the volume sold by fueloil dealers to satisfied customers. The return of value to the dollar gives the fueloil dealer a great merchandising opportunity—a dollar saved is conceded to be equal to $20 in sales. Also, particularly in industries experiencing a downturn in sales volume, the fueloil dealer will find a sympathetic ear when he talks about reducing operating costs; this approach is of just as much benefit when used with landlords whose taxes and other costs have risen while rents remain almost stationary.

The old-fashioned pencil-and-paper act will sell millions of gallons: No. 4 and 5 oils cost less per gallon and have more Btu's to every gallon than No. 2 oil. "See the substantial number of dollars you save per season!" And write down the number of dollars saved right in front of his eyes.

This is exactly how businesses are built, by showing how money can be saved by utilizing a new or different fuel, equipment or material.

Take the case of an apartment house burning about 60 tons of soft coal a year. For handfiring, a good grade of low volatile coal is needed, costing about $13 a ton. Assuming a ratio of 150 gal. of oil to one ton of coal, the equivalent oil consumption will be about 9,000 gal. With No. 2 oil selling around 13.75 cents, the annual fuel cost with No. 2 oil would be about $1,237.50 against $780 for coal.

But with No. 4 or 5 oil, the oil consumption would be reduced to about 8,100 gal. annually, since these heavier oils contain, as I usually tell my sales prospects, on the average, 10% more heat units per gal. than does No. 2. At a cost per gal. of about ten cents, the annual fuel cost should not exceed $810. It follows, then, that a property owner who might be reluctant to switch from coal to No. 2 oil, despite the evident advantages in labor saving, cleanliness, etc., might be signed up readily when shown that the heavier oils will have all the advantages of No. 2 oil at approximately the same cost as coal. In some cases, the cost of No. 4 or 5 oil is less than that of coal, depending on local prices.

An even more striking comparison can be drawn in the case of a building now burning No. 2 oil. It is a case of simple arithmetic to show that within a surprisingly short time the savings accruing from the use of No. 4 or 5 oil will amortize the expenditure involved in replacing the No. 2 burner with one designed to burn No. 4 or 5.

In one large eastern city No. 2 oil now retails for 13.75¢ per gal.; No. 4 for 9.93¢; and No. 5 for 9.02¢—but the difference in price per gal. is not the complete saving in favor of the heavier oils: the additional Btu's mean that fewer gallons will be burned in switching from No. 2 to No. 4 or No. 5.

Take the case of a small factory burning 14,000 gal. of No. 2 oil a year. To begin with, on No. 4 or 5 oil the consumption will be reduced by about 1,400 gal. by virtue of the higher heat

Sure . . . you can cut firing costs by burning heavy fuel oil . . .

but you've got to control the oil feed

and Petro does this superlatively well without complicated gadgets

The so-called viscosity problem with heavy oils is overrated. This is so because the viscosity of *all* fuel oils approaches a common point as the temperature is raised, and the temperature at which viscosity becomes a negligible factor is well within a practical operating range.

The Petro thermal viscosity control system is simply this: an electric valve controlled by the oil temperature refuses to admit oil to the atomizing cup until the oil has reached a desirable burning temperature. This temperature is arrived at by circulating the oil through heaters when necessary. This accomplishes four important results:

1. Viscosity control permits accurate metering of oil.
2. Oil is thin enough for extremely fine atomization.
3. Hot oil ignites easily.
4. Petro *never* has a slug of cold oil in the feed line to foul up a cold start.

That is why the Petro burner can fire the economical heavy oils without a fearsome array of fancy trimmings. It is fool proof, gadget free, and completely dependable—all good reasons why Petro is the largest selling industrial oil burner in America.

A reservoir of warm oil is maintained. In the use of this thermal viscosity system, all of the heated oil which is not required for immediate firing is returned to the storage tank. Thus a constant pool of warm oil is ready for any changes in firing needs. The amount of oil being returned is easily regulated by the owner of the burner, to suit his individual needs.

No manual attention is required

The entire operation is automatic. There are no involved mechanical controls requiring adjustment or maintenance.

Saves labor costs—saves fuel costs

Why don't you find out how much Petro industrial oil burners can save for you? They are quickly adaptable to nearly every existing boiler. Send in the coupon below for full information.

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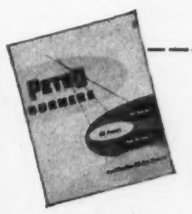
OVER 50 YEARS OF LEADERSHIP IN AUTOMATIC HEATING AND POWER EQUIPMENT



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PETRO, 3253 West 106th Street, Cleveland 11, Ohio.
In Canada: 2231 Bloor Street West, Toronto, Ontario.

Please send me literature and specification sheets on money-saving Petro commercial and industrial burners.

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content. So, the annual fuel cost will drop from $1,925 (14,000 × .1375) to $1,136.52 (12,600 × .0902). The saving of $788.48 will amortize the cost of the new burner installation in two or three years (depending on how large a tank is needed for purchasing the heavier oil, and on whether a new tank is needed at all).

And, in this case the sale can be made by guaranteeing the savings: after the amortization of the equipment is completed, there will be many more years of savings on fuel costs. A company in New York state which makes 400 heavy oil installations a year advertises such guaranteed savings; and gives names and addresses of users who have made typical savings year after year.

In a certain East Coast city the use of No. 4 and No. 5 oil had been confined to larger jobs, with more or less constant boiler room supervision available. Now these heavier oils are applied to much smaller jobs, where there is no need for regular or constant boiler room attendance by a janitor or other supervisor.

Hence, the double opportunity exists for the dealer to bring his customers the benefits of low cost oilheating, and at the same time of making a profitable equipment sale. Thereafter, the customer reaps an annual fuel saving, and the dealer has the repeat oil business. Alert fueloil dealers are aware of this well defined tendency with respect to oilheating in moderate sized buildings. And, fortunately, the dealer does not have to be a graduate engineer, or to employ one, to utilize this equipment and thereby give his customers economical heating which is also eminently satisfactory. Furthermore, a good domestic burner mechanic can readily become adept at servicing this commercial type.

There are two broad fields of application for medium sized burners of the heavy oil type, heating plants and processing plants. The heating plant may supply heat to a wide variety of buildings, including large residences, small apartments, hotels and commercial buildings, such as shopping centers, garages, automobile sales agencies, moving picture houses, small factories and office buildings, and greenhouses. Schools and public buildings also are included in this category.

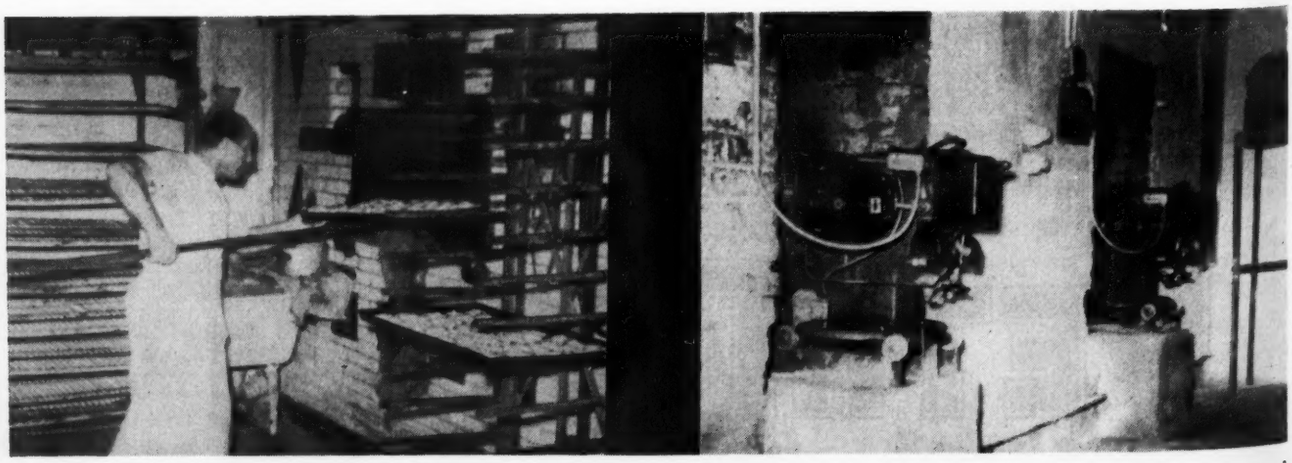
The processing plant may be in a moderately large laundry or dry cleaning plant, a dairy, a tire vulcanizing shop, food processing plant, or similar industry in which high pressure steam is needed in moderate amounts. There also are process applications for low pressure steam in electroplating plants and bakeries.

One laundry in Greater New York which burned light oil and converted to No. 5 oil has saved $800 a year. For the past 12 years, altogether, this laundry has saved $9,600. The cost of the installation was $3,600. A large chain store has over 100 installations of burners for heavy oil, and they estimate savings of a thousand dollars a year per installation over the cost of light oil or coal.

In merchandising commercial oilburners, the dealer will find at least one significant difference as against selling domestic burners. In the case of a domestic sale, the dealer stresses comfort, relief from furnace tending and cleanliness. But in selling commercial burners, the dealer may find that the prospect takes these features for granted, and wants to know comparative fuel costs. The dealer must be perfectly familiar with current prices on the several kinds of coal used in his locality, the rates of gas for heating and for small industrial boilers, and, of course, the prices on commercial grades of fueloil. Oil prices in some areas may be affected by size of delivery.

If the customer will use a substantial amount of oil, and if there is a price differential in his locality between truckload and transport load, then by all means the dealer should investigate the relative costs of standard tanks against tanks large enough to receive full trailer or transport loads. It may be that a moderate increase in the amount of the sale will be the means of bringing the customer excellent returns in reduced oil delivery costs.

Always remember that every saving to a customer, every extra service pays dividends in good will and repeat business.

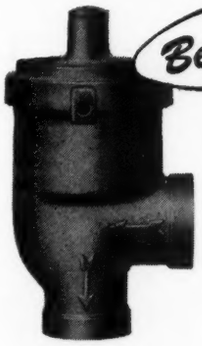


Installation *in Ratner's Restaurant in Manhattan, showing burners installed in the bakery. Once these ovens were fired with coal stokers. Since switching to oil the establishment has saved one man one day's time per week—an annual saving of $960, with a plus bonus of cleaner, faster and more efficient service. The Hev-E-Oil burners are on rollers which permit them to be moved in or out of the ovens when proper temperature has been reached.*

Meet Every Code with PREFERRED ANTI-SYPHON VALVES

Industrial Type A 1¼" to 3"

Be Sure-Be Safe



Type B ¾" and 1"

Non-Adjustable—Angle Type for convenient installation.

Heavy Bronze Construction. Approved by Underwriters' Labs., Inc.

TYPE A—1¼" to 3". Maximum capacity to 1000 G.P.H., with #5 and #6 oil.

TYPE B—¾" and 1". Maximum capacity to 100 G.P.H., for #1 to #5 oil.

TYPE C—⅜" and ½". Maximum capacity to 30 G.P.H. of #1 to #3 oil.

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SAFETY SWITCH THAT SHUTS OFF FUEL IF BLOWER FAILS

Protection for Oil Burners • Industrial Ovens • Power Gas Burners

WHAT IT DOES

The Dewey Safety Air-Flow Switch protects against opening of fuel valve until fan is up to speed.

Insures purging of furnace before fuel valve opens. Closes fuel valve if fan slows up or stops. Flashes danger signal if fan or fuel stops. Safeguards against danger from gas fuel failure when used with safety shut-off valve.

Thousands sold. Factory Mutual and Underwriters Laboratories Approved. Standard equipment on leading products. Write for prices and literature.

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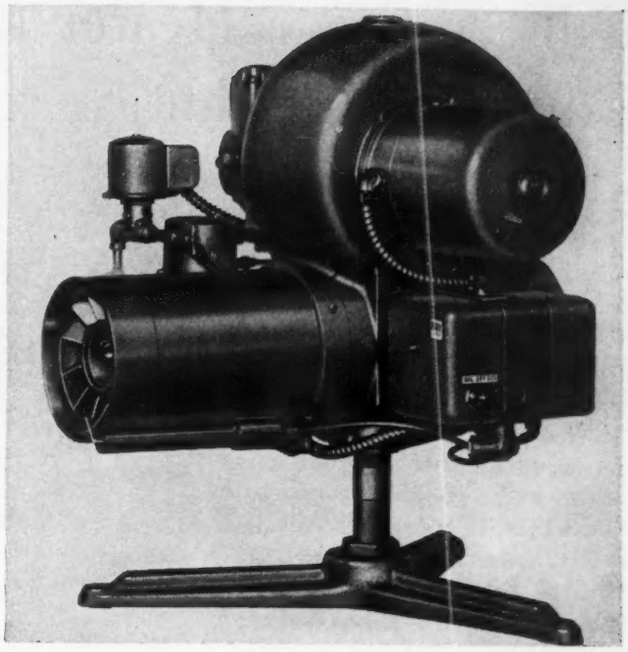


NEW RAY pressure burner eliminates nozzle coking

That familiar headache—nozzle coking and plugging—has been eliminated in the new Ray Pressure Combination Burner.

Ray engineers have accomplished this by the development of an exclusive gas-oil ignition system which cleans the oil nozzles in each cycle during extended gas firing periods.

The Ray Pressure Combination Burner also functions efficiently against positive pressure with no loss of capacity. The simplified design of this unit insures easier servicing and more economical operation.

The Ray Pressure Burner is also available in Pressure Diesel and Pressure Type Gas models.

This new burner is another addition to the complete Ray line, which includes a burner for every type of commercial installation.

RAY OIL BURNER CO.

Since 1872

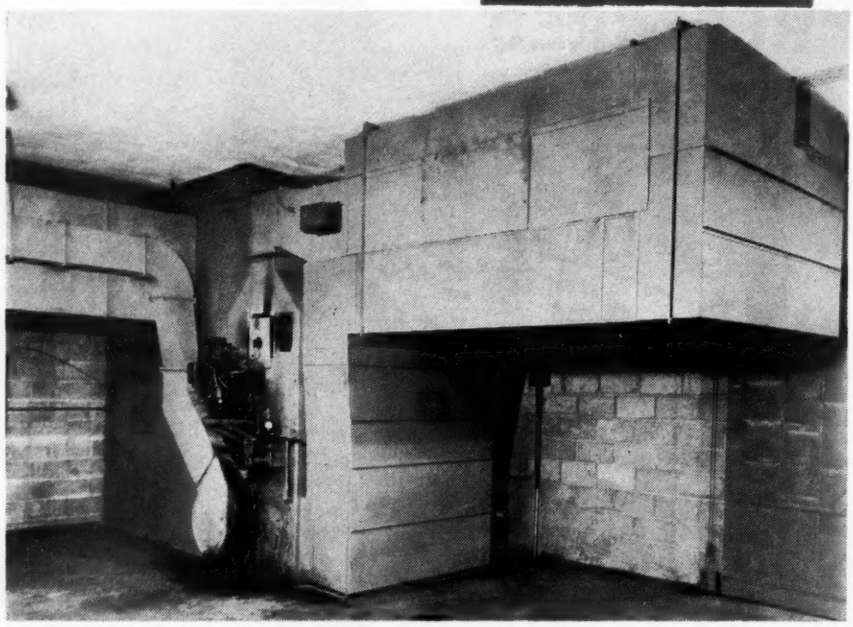
DISTRIBUTORS IN ALL PRINCIPAL CITIES OF THE WORLD

Oilfired space Heater provides Comfort for Addition to School

COMMERCIAL & INDUSTRIAL oilburning

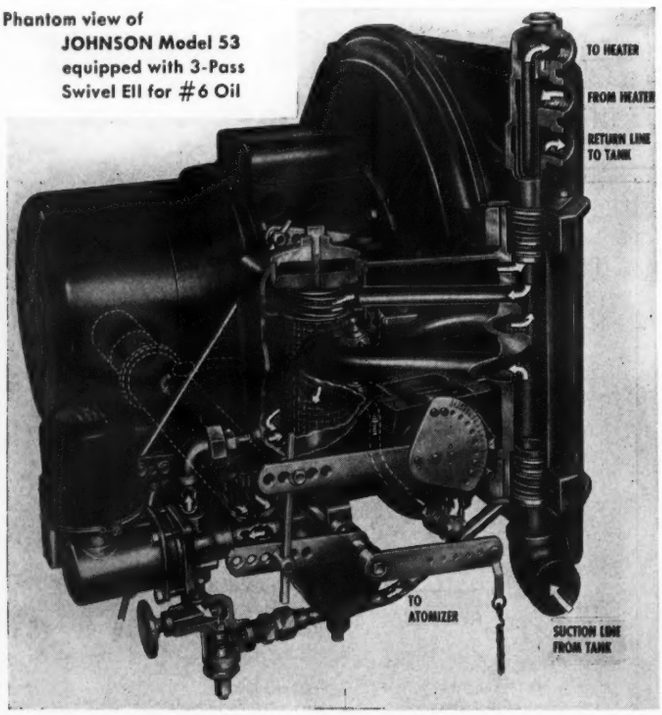
SCHOOL HEATING with warm air furnaces certainly isn't new. Naturally, most of these installations have been made in the areas where warm air is the more popular form of heating, but even in other sections of the country warm air heating in various forms has been used for school heating.

In Twinsburg, Ohio, where furnace heating is about twice as popular as boiler heating, when an addition was made to The Twinsburg School warm air was chosen. There were some complications, though. In the first place, the architectural firm, Fulton, Krinsky & Della Motte, Cleveland, was obligated to stay within a specific budget. They could not add any additional custodian duties since this would require the hiring of additional personnel and, of course, available funds would not allow replacement of the five coal fired furnaces that were heating the original school building.



The fresh air duct *at the left, as well as the return duct feeds into the plenum chamber. From there a 11,178 cfm fan forced about two-thirds of the air through the heater; the remainder (tempered air) is channeled into the vertical riser at the right of the heater. Tempered air duct turns horizontal and then bends up and around the hot air duct (center section) to form a compact distribution terminal.*

Phantom view of JOHNSON Model 53 equipped with 3-Pass Swivel Ell for #6 Oil



Positive Starting!
Better Performance!
Lower Fuel Costs!

JOHNSON MODEL 53
METERING PUMP BURNERS

With this revolutionary new burner you get smooth, sure, automatic "Starts" even when the oil in storage tank and lines is cold and hard to pump. It is built with a positive displacement Metering Pump, a 3-Way Magnetic Oil Valve, and a high efficiency Suction Pump that enable the Fifty-Three to maintain a fixed air-fuel-ratio regardless of variations in oil temperature and viscosity. Never before has there been a burner which so successfully overcomes the "Cold Starts" problem.

The Fifty-Three is built in 8 sizes from 25HP to 500HP. It is available with Direct Drive or Belt Drive. Combination Oil and Gas models also are available. All models are fully automatic and equipped with finest electronic controls. For efficiency, easy servicing and all around economy, the Fifty-Three is the best oil burner buy on the market.

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
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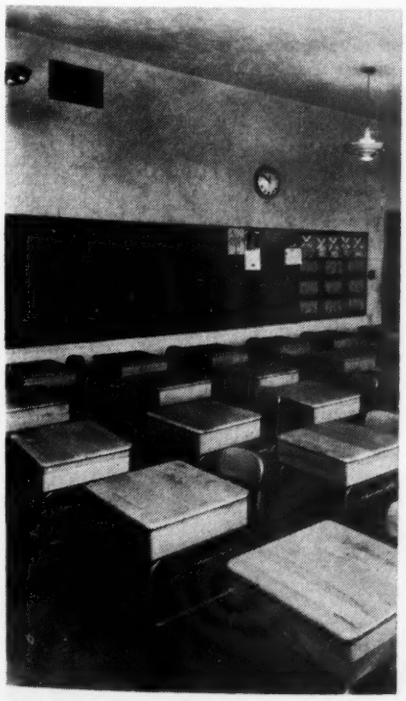
Builders of fine Oil Burner Equipment since 1903

The selection narrowed to some kind of a separate system and after considering the several types available, the architects selected a separate recirculating warm air system incorporating a Dravo Counterflo oilfired space heater. Among other advantages, the unit provided automatic operation thus doing away with any need to enlarge the custodian staff and operated with economical fuel.

The unit's method of blending return and fresh air automatically compensates for fluctuations caused by solar heat gain, lighting fixtures and sensible heat given off by room occupants. Furthermore, it is not necessary to open windows for ventilation.

Approximately equal in volume to the old building, except for an auditorium and gymnasium, the new structure is heated for about 27% of the amount spent on the existing section—$499 as against $1,884.

With the system used, every room in the addition—there are 11 classrooms plus clinic, rest rooms and toilets



Fresh warm air *enters each school room through a directional grille near the ceiling. Exhaust is through a short duct directly into the corridor outside; in kindergarten rooms exhaust air first passes into and through children's lockers. All room exhaust ducts are fitted with safety backpressure dampers.*

IT'S NEW!

Paracoil OIL-LEAK DETECTION SYSTEM

for STEAM TYPE FUEL OIL HEATERS

Type LP-20 Condensate Inspection Tank

Continuously Monitors the Purity of Condensate leaving Steam-Type Fuel Oil Heaters

- Isolates all fuel oil entrained in the condensate stream
- Gives alarm to plant Personnel
- Protects the boiler by removing oil contamination from feed-water cycle
- Applicable to both low and high pressure steam plants
- Engineered to the special requirements of each installation

Write for further details

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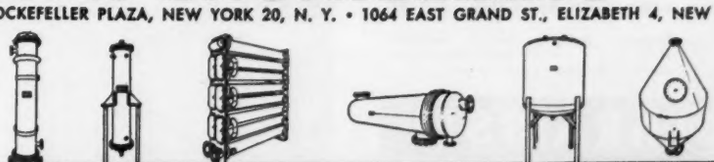

Since 1915 . . . Paracoil's skill to do comes of doing . . . Since 1915

New Scully

FASLITE

Patents Pending

Gas Pilot Torch

Provides Sure, Fast Light-Off Every Time for Commercial–Industrial Oil Burners.

Torch operates with manufactured, natural or LP gas.

Write for price and literature.

SCULLY SIGNAL COMPANY

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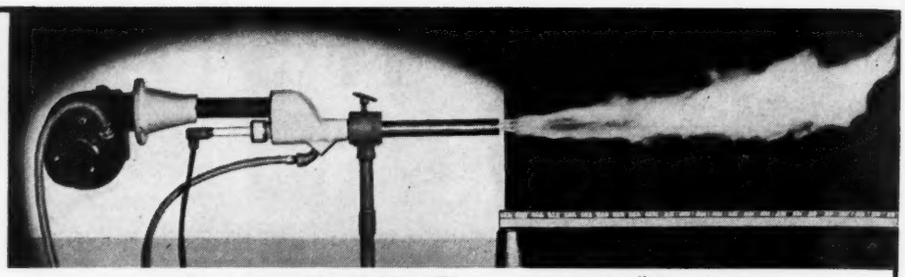

Features Hard Hot Flame up to 25" Long

New Flame Stability
Jet-like flame highly resistant to air turbulence. More reliable in conjunction with pilot flame supervision.

New Flame Reach
Flame shoots out even 5 times as far as some atmospheric-type gas pilot flames. Virtually eliminates delayed ignition.

New Flame Heat
Several hundred degrees hotter than other pilot flames. Assures fast light-off even with cold oil.

New Flame Reliability
Torch utilizes an air injection system (forced air). Flame is unaffected by atmospheric variables.

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FUEL OIL PUMPS

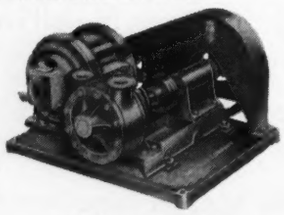
Compact, lightweight pumps that operate at wide ranges of speed—to handle oils of all viscosities and give long trouble-free life.

CLASS 50 LIGHT OIL PUMPS

Direct-drive design

Roller tolerances permit handling extraneous matter that would jam other mechanisms. Good suction characteristics. Capacities 60-600 GPH; pressures to 100 psi. Ask for Bulletin A-1330.

CLASS 60 HEAVY OIL PUMPS



Reduction-drive design

Time-tested Kraissl design for direct burner supply—or as booster pump. The pump that will pull heavy oil when it is cold. Capacities, 75-1800 GPH; pressures to 100 psi. Ask for Bulletin A-1193.

Bulletin A-1330 and/or Bulletin A-1193 . . . gives you full data—write for your copy today!

KRAISSL KRAISSL CO Inc.

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COMMERCIAL & INDUSTRIAL oilburning

—can be supplied with a constant volume of up to 100% fresh outside air during school hours; more than enough to supply the requirements of a complete change every 10 minutes. A unique and inexpensive method of blending return and fresh air solves the problem of individual room temperature control.

The heart of the heating system is shown in the accompanying photograph. The fresh air duct at the left, as well as the return system feeds into the plenum chamber at the left of the Dravo heater. From here a 11,178 cfm fan forces about two-thirds of the air through the heater, and the remainder (tempered air) into the vertical riser at right of heater. The tempered air duct turns horizontal and then bends up and around the hot air duct (center section) to form a compact distribution terminal.

Inside these air chambers are pneumatically operated proportioning dampers, that determine the proper mixture of heated and tempered air that is to go through branch ducts to individual rooms. A pneumatic modulating thermostat in each room controls the proportioning damper on this duct terminal in the air chambers to meet room temperature requirements. The normal position of the damper blade controlling the heated air is "open" and it is throttled back by the thermostat. A separate set of manually-adjusted dampers on the branch ducts keep total air distribution balanced.

Return air from rooms flows out into the corridors and down the stair well into the plenum mixing chamber or out a roof vent. The proportion returning and that exhausted is deter-

Addition *to the Twinsburg School is at the left. This section of the building contains a heating and ventilating system built around an oilfired Dravo Counterflo space heater.*

mined by the percentage of fresh air admitted. Ducts for delivering air to the rooms are located above a false ceiling in each corridor. Exhaust air leaving kindergarten rooms first passes through children's lockers, before discharging directly into the corridors. This is in accordance with State Code requirements. All room exhaust ducts are fitted with safety backpressure dampers.

Fresh make-up air is controlled by a pneumatic thermostat located in the plenum mixing chamber at left of heater, which operates dampers on the fresh air intake, return air discharge and the roof exhaust vent. Setting this thermostat at any temperature below that of the return air causes it to adjust the three dampers to maintain predetermined ventilation. Thus, the lower its setting, the greater is the percentage of fresh make-up air admitted.

Modulating control of the heater is through a thermostat mounted in the heater outlet duct. With this method of control, daytime operation is such that the required amount of fresh air is admitted, the heater maintains a set heated air temperature and the individual room thermostats control their mixing dampers to deliver air into the rooms at the required temperature. For night operation a throw-over selector switch on the heater panel puts all control on an electrical thermostat in the stair well. Heater and fan then operate intermittently to maintain building temperature, and 100% of the building air is recirculated.

❖

M-H's Industrial Division adds sales, service Men

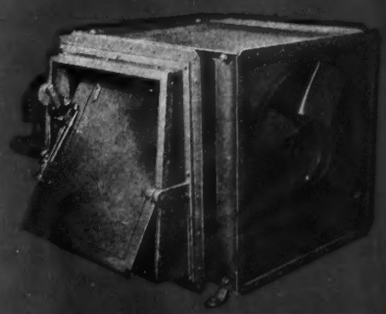
THIRTY-SIX sales and service engineers were graduated recently from the Industrial Division training school of the Minneapolis - Honeywell Regulator Co., Minneapolis, Minn.

Assigned to 27 branch offices in 25 U. S. cities, Canada and Germany, the class was composed of 9 new salesmen and 27 service engineers.

According to J. A. Robinson, field sales manager, the emphasis on service engineers was influenced by the shortage of skilled technicians to service industrial instruments.

"...Let's cut this stack off here and put a Wing Draft Inducer on the boiler... We'll save the cost of the chimney, have better draft and a better looking building."

If you are building or rebuilding or increasing the size of your boiler plant, a costly, tall chimney can add considerably to the expense. And a well planned architectural design can be ruined with an unsightly, towering stack.



WING DRAFT INDUCERS eliminate this problem, providing positive, adequate, uniform draft regardless of surrounding conditions, or variable weather. They cut operating costs too, by giving higher CO_2's. Smoking is reduced or eliminated. Higher boiler capacity is possible. *Write for Bulletin I-55. Use the coupon.*

L. J. Wing Mfg. Co. 66 Vreeland Mills Road, Linden, New Jersey

Factories: Linden, N.J. & Montreal, Can.

Wing

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Please send me Bulletin -55—Draft Inducers
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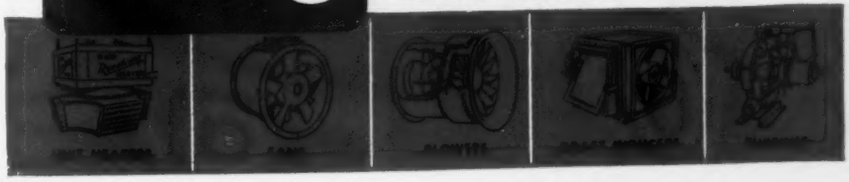

COMMERCIAL & INDUSTRIAL oilburning

Paper considers Quality, Uses of heavy Fueloils

Following are excerpts from a paper presented at a session on petroleum products during the 20th Midyear Meeting of the American Petroleum Institute's Division of Refining, Jefferson Hotel, St. Louis, Mo., May 12, 1955. It was prepared by J. O. Collins and W. T. Knox, Esso Research and Engineering Co., Linden, N. J., and delivered by Mr. Knox.

WHY IS IT NECESSARY to take a "new look" at heavy fueloils? Has the product changed in essential qualities? Have its uses become more critical in some qualities? Has the market failed to keep pace with refinery growth? This paper presents partial answers to these questions, at some risk of oversimplification.

Heavy fueloils have been priced appreciably below most other petroleum products over the past 20 years. The prices have fluctuated due to: 1, changes in business activity; and, 2, supply and demand within the industry. Over the period since 1934 the price of heavy fueloil has approximated coal parity. The discouraging point about this to the refiner is that, in most cases, these fuels have been selling for considerably less than the price he has paid for U. S. crude oil.

The postwar increase in U. S. residual-fuel consumption has average only about 1.1% per year, compared to about 7.3% per year for other petroleum products. The industry has not capitalized on the fact that many customers prefer residual fueloils to solid fuels. This slow rate of growth, together with the relatively low price, has caused some refiners to employ new processes or process improvements to maximize production of lighter petroleum products at the expense of residuals.

In the 8-year period from 1946 through 1955 the average yield of residual fuel in U. S. refineries has dropped from 24.9% to about 15.0% per barrel of crude. This has been accomplished through application of vacuum distillation, deasphalting, visbreaking, catalytic cracking, coking, and other processes. This trend is expected to continue in the future.

The decline in yield of residual fuel from domestic crude will be partly offset by increased crude runs to meet the growth in demand for other products. The remaining gap between fueloil demand and domestic supply can be economically filled by residual-fuel imports. With keener competition between fuels, the residual-fuel growth in this country in the next few years probably will be slightly lower than in the past. U. S. demand for residual fueloil dropped sharply in 1954 from that of 1953. This was due to lower in-

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dustrial activity as well as to the continued impact of competitive fuels, especially natural gas. By 1957 it is estimated that total U. S. residual-fuel demand will, roughly, only equal that in 1953. Other products, however, are expected to increase from 15% to 30% during that interval.

The 1953 and the estimated 1954 U. S. demand for residual fuel by various classes of users is given in TABLE 1. The four big users are industrial plants, ship bunkers, space heating, and utilities. In 1954 estimated space-heating requirements jumped more than 16% above requirements of 1953, in spite of the overall decline in fuel-oil sales in 1954.

Although the large increase in this 1-year period results largely from the fact that 1954 was a much colder year than 1953, it also reflects the preference of many consumers such as office buildings, apartment houses, stores, and schools for heavy fueloil rather than coal. This is due to the greater ease of handling and storage, elimination of ash, and lowered manpower requirements. Manpower requirements are lowered because heavy fueloil can be easily adapted to automatic controls. It seems likely that aggressive marketing tactics—taking advantage of these quality bonuses in fueloil—can help build a broader demand.

Fueloil Quality

The application of fuel-reduction processes such as deep vacuum distillation, deasphalting, coking, and visbreaking have resulted in changes in heavy fueloil quality. Maintenance of quality has become more difficult. As the percent bottoms on crude is reduced, the viscosity increases. Also the concentration of non-volatile ash-forming constituents, the sulfur, the sediment, and the less easily combustible compounds increases.

Proper design of the combustion equipment will, in many cases, make it possible to burn very heavy fuel satisfactorily. The essential design characteristics for good combustion of very heavy fueloil include: 1, adequate fuel preheat—to as high as 500°F if necessary; 2, good atomization (steam or air atomizers and mechanical atomizing burners all have proved satisfactory in

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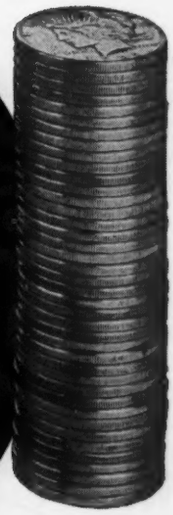

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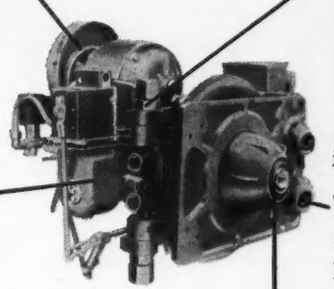

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practice); and, 3, sufficiently long residence time of the fuel droplets in a hot combustion zone.

Modern power-generating equipment also has placed more critical demands on heavy fueloil. Increased efficiencies in central power stations have come about from higher steam temperatures and pressures (1,100°F and 2,300 psig).

TABLE 1

Residual fueloil Demand in the United States, by Uses

	*1953** (*Millions of Barrels*)	*Percent of Total*	*1954 (Estimated)†* (*Millions of Barrels*)	*Percent of Total*
Industrial plants	166.7	30	154.7	30
Ship bunkers	114.3	20	104.8	20
Space heating	81.8	15	95.3	18
Electric and gas utilities	85.4	15	66.8	13
Railroads	28.5	5	13.9	3
Oil-company use	51.3	9	50.0	9
All other uses	32.5	6	36.5	7
	560.5	100	522.0	100

*U. S. Bureau of Mines. †Standard Oil Co. (New Jersey).

Even in the industrial- and space-heating fields, greater demands have been placed on the combustion characteristics of heavy fuel as a result of the increasing popularity of the cheaper "package"-type boilers. Greater public awareness of the contribution of fuel combustion to air pollution, with its emphasis on sulfur and incomplete combustion, must also be considered as an important factor in the "new look" at heavy fuels.

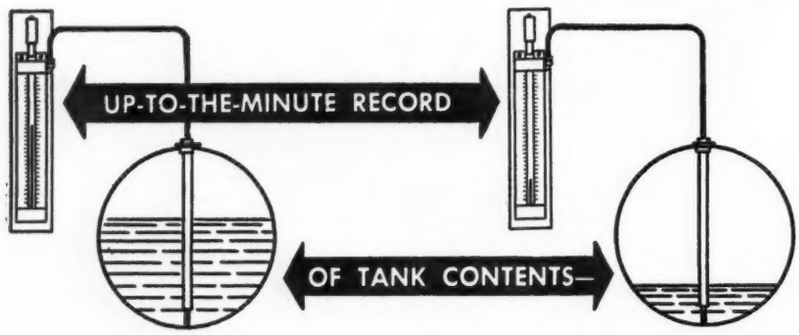
More recently a new power-generating machine, the residual-fuel-burning gas turbine, has appeared in this country. Although the ash compounds in heavy fuel have caused problems, this turbine is expected to gain in popularity as the problems are solved.

Ash Constituents

By its very nature, residual fuel contains the non-volatile ash-forming constituents in the original crude, whether oil- or water-soluble. Ash may come also from other sources: 1, corrosion of metal tanks, lines, and refinery equipment by naphthenic and other acids in the crude; 2, contamination with such things as dirt, scale, and salt water; and, 3, such substances as caustic and carbonates injected into distillation equipment for control of corrosion or to neutralize acids.

Investigators disagree as to the exact form in which such trace elements as vanadium, nickel, and other metals occur in petroleum. However, there is almost complete agreement that they are very difficult to remove.

The ash content of heavy fuels will vary, depending upon yield and method of processing the crude. A typical fueloil may have an ash content of



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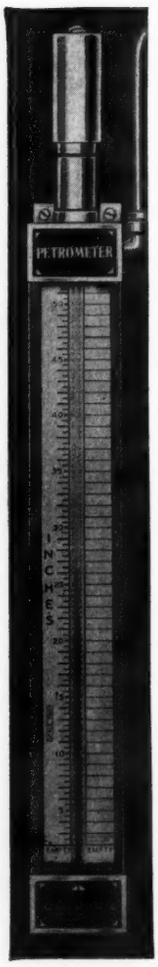

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about 0.08%. This amount of ash is, of course, less than the ash content of bituminous coal. Therefore, in industrial boilers and in small space-heating installations, the amount of ash currently found in heavy fueloil is a welcome change from that previously encountered in coal.

The type of ash in heavy fueloils, however, is responsible for a great deal of the problem with heavy fuel quality. Sodium and vanadium—both major components of ash from most heavy fueloils—lead to difficulties in high-temperature power-generating equipment. The 3 major effects of these constituents are: 1, attack on refractories in boilers; 2, slagging or deposits on boiler tubes or gas-turbine blades; and, 3, high-temperature corrosion of metals.

The effect of ash on furnace refractories was more prevalent years ago when boilers included more brickwork than now. This was particularly true in marine boilers where fireboxes were small, and where there were large areas in which the flames impinged on the brickwork, giving wall temperatures of 2,800°F or higher. The walls were marked by verical gouges where rivulets of molten slag had run down to the furnace floor.

Several remedies, other than changing to a distillate fuel, can be applied if this problem is particularly severe. Elimination of flame impingement on the refractory will minimize damage to the brickwork. Cooling of the brick is sometimes practiced also in modern designs. Laboratory studies have indicated that high alumina-content bricks (60% aluminum oxide) are more resistant to attack from petroleum ash than the conventional type of fireclay brick. Magnesia brick is also suitable.

Boiler Deposits

In most modern central-power-station boilers ash deposit is a much greater problem than refractory attack. The ash constituents of heavy fueloil form deposits on the superheater tubes, where tube metal temperatures are highest, and cut down heat transfer. Periodic shutdowns are necessary for cleaning the deposits, using water washing or, in severe cases, hand chiseling of the slag.

Two distinct types of tube deposit have been observed. One is a hard, black, crystalline deposit, typical of that encountered with a fuel high in vanadium but low in sodium.

No truly satisfactory explanation of the mechanism of ash deposition has been offered to date.

The sodium content of heavy fueloil ash arises mainly from the salt present in the crude oil. The increasing use of desalters in the refineries will, therefore, help hold down the sodium content as the percentage of bottoms per barrel of crude is reduced.

Boiler designers have not been idle, either, in combating ash deposition. Whenever possible, superheater tubes have been spaced more widely to eliminate having the deposit bridge across adjacent tubes. The use of dolomite has been successful in some installations, making the deposit more friable and easier to remove with soot blowers.

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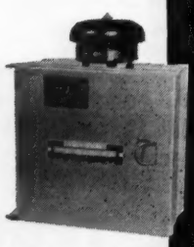

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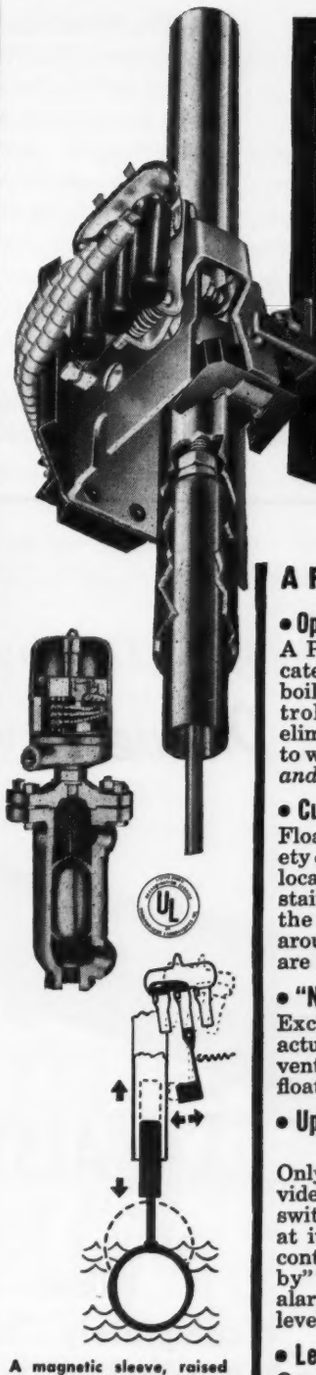

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Ash from heavy fueloil also attacks the superheater hangers and supports; and, in some cases, there may be attack of the superheater tubes themselves. The problem is expected to become more critical as steam temperatures increase. It also is a serious problem in the residual-fuel gas turbine where there may be rapid attack of the first-stage nozzle partitions and buckets.

The refiner can do little at this time to decrease the vanadium content of heavy fueloil. No processes are available for economically and selectively removing the vanadium compounds, although research work is under way in many laboratories. Design of some new boilers to protect the superheater hangers and supports from the hot flue gases will alleviate the problem. Also the use of dolomite, magnesia oxide, and similar additives appears to inhibit high-temperature corrosion. When proper facilities have been made available to remove the added deposits, this method has proved to be practical and economical. More resistant alloys and coatings and methods for forced cooling of metal parts are being developed.

Sulfur

Sulfur in residual fuel can cause problems in three main ways. It burns to form sulfurous oxides which: 1, can cause low-temperature corrosion of metal components of boilers, such as air heaters and economizers; 2, can combine with metallic ash constituents to form slag; and, 3, can contribute to air pollution.

Low-temperature corrosion is caused by sulfuric-acid condensation on metal parts when their temperature is below the dew point of the flue gases. As sulfur increases, the dew point of the flue gas also is raised. Above 1% sulfur in fuel, however, the increase in dew point is relatively small. This can be important, however, when striving for maximum efficiencies. The part played by sulfur oxides in air pollution is receiving closer attention, but is so specific to each installation that no generalizations can be made.

The value of a process for removing sulfur from heavy fueloil appears to be mainly related to the increased efficiencies possible with the lower dew-point flue gases which would then be possible. The increased efficiency possible when changing from a fueloil of 3% sulfur to 1% sulfur is worth only about 5¢ per barrel to an operator of a large bulk plant. And, inasmuch as residual fuels from almost all crudes contain more than 1% sulfur, there appears to be little that the refiner can do to help alleviate this problem.

Dolomite and similar additives have been employed to reduce low-temperature deposits and corrosion in the economizers and air heaters of boilers. As not all residual-fuel consumers could cope with these additives if they were introduced into the fuel by the refiner, universal application does not appear feasible at present.

Mechanical methods of combating the effects of sulfur in the cooler parts of boilers include such methods as the use of air recirculation in air heaters, steam preheating of incoming air and

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of boiler feed water, use of alloy tubes, and special coatings. These methods all tend to raise metal temperatures at the critical points to prevent acid condensation or to provide corrosion-resistant surfaces. To determine the optimum methods, a balance is struck between initial investment and operating cost vs. maintenance and replacement.

Space Heating

In the space-heating field competition from natural gas in some localities has made deep inroads in expansion of outlets for No. 2 heating oils and light industrial fuels. In order to maintain and expand their business, some fueloil dealers and burner manufacturers are attempting to use low-cost fuels in moderate-size heating plants which formerly used the more expensive distillate heating oils.

In order to accomplish this with minimum conversion costs, poor engineering practices—such as undersized lines and fireboxes and inadequate preheat—have sometimes being applied. This has placed additional burdens on the quality of commercial standard grades of No. 4 and No. 5 fuels. A closer look at the qualities of these fuels may be necessary to meet the more critical requirements imposed by these situations. The economics of these applications will determine the extent to which additional processing and, hence, increased costs for the fuel can be tolerated.

A "new look" at residual fuels is necessary because of the following major factors:

Conclusions

1. Consumers are becoming more critical of quality and asking for better performance, still at low fuel costs.
2. Designs of modern power-generation equipment are much more critical of residual-fuel impurities, such as ash and sulfur, by virtue of the desire to attain maximum efficiencies and capacities in more compact units.
3. The trend in refining toward lower residual-fuel yields from crude has a degrading effect on quality because it results in the concentration of ash, sulfur, and less easily combustible compounds in this heavy fuel.

There is a definite challenge offered by the trends in power-generation practices to attain higher efficiencies. Although more research effort is required on the part of the oil industry to define necessary qualities of heavy fueloils and to develop means of controlling them, we feel that the solution to the problems will come only through close cooperation between the designers, the operators, and the oil industry.

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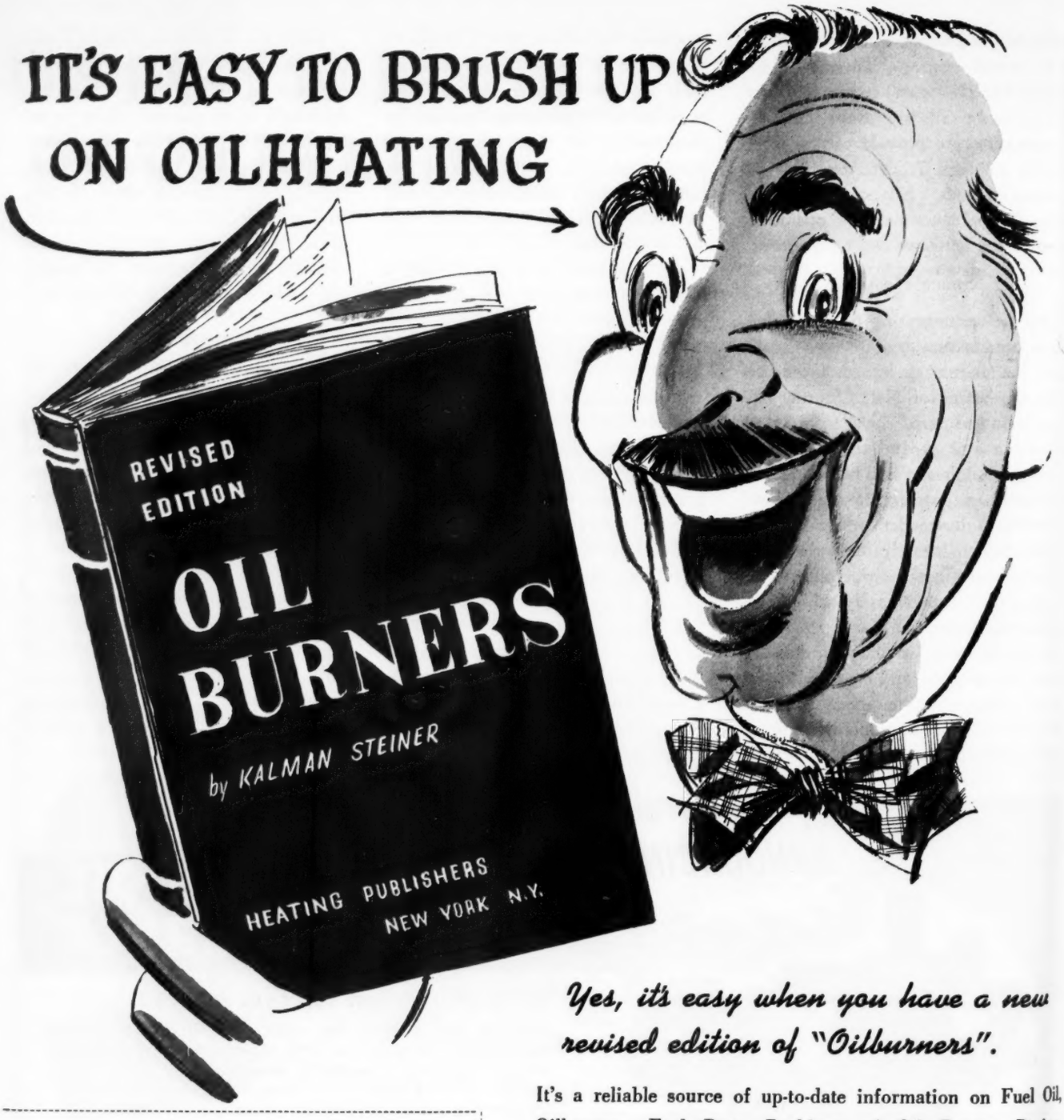

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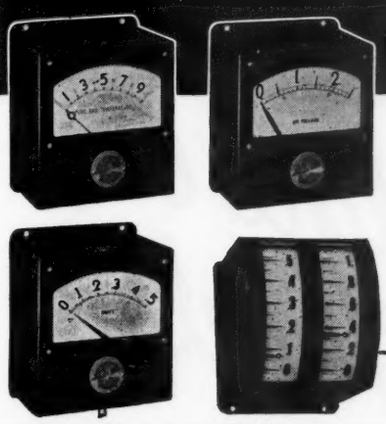

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AIMED AT PROVIDING more efficient fuel consumption and lower maintenance costs, the Sumco Engineering Co., Caldwell, N. J., specialists in chemical cleaning of boilers and heat exchangers, has inaugurated a "Fueloil Conditioning Service."

Individually tailored to each situation, the service starts with a visit by a Sumco engineer, who makes a study of the client's fuel system and equipment. This is followed up by the formulation of a plan, based on laboratory analysis, which is designed to restore the equipment to top efficiency.

Package Boilers subject of new Cyclotherm Publication

A COMPILATION of articles that appeared in its house organ on package steam generators has been published by the Cyclotherm Division of the National-U. S. Radiator Corp., Oswego, New York.

Entitled "Cyclotherm Sales Steam," the new booklet describes the formulas behind all package steam generators, and illustrates how installation of a package steam generator can raise steam capacity in an existing boiler room without extensive structural changes.

Another feature of the 12-page booklet shows plant operators how to make a professional survey of their cation also includes installation case histories.

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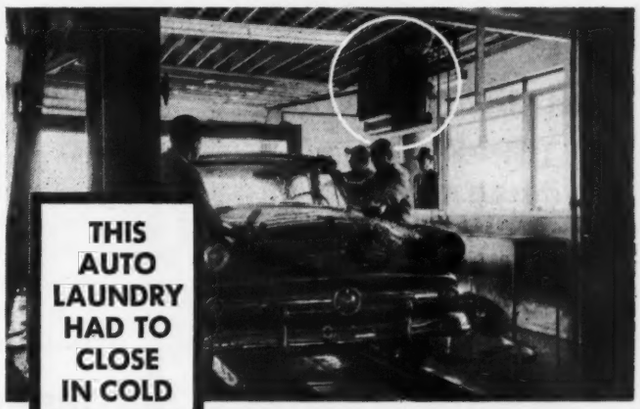

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RESULTS: When the outside temperature is 0°, temperature through the long building is now 50° — with both doors open. The Delta Unit Heater extended business hours and increased profit considerably.

This is only one of hundreds of jobs that a Delta OIL Unit Heater can do better and more economically.

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John P. Birmingham, President

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MODERN tankers keep payloads up . . . costs down . . . for White Fuel Corporation, Boston, and for leaders in the petroleum industry everywhere.

This new White 3000 in the White Fuel fleet pulls a big tank, has short wheelbase for excellent maneuverability for narrow street deliveries, and has a powerful White Mustang Engine.

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MODELS **GR-90E** (GAS)
OR-85E (OIL)
and **OR-96E** (OIL)

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Performance — the kind that pulls more paying customers — calls for star performers. You've got 'em to spare with International Economy! With the big, complete line of Economy furnaces (gas, oil or coal) you're sure to get every customer that's coming to you. It's the line that provides a solid, sales-clinching Ten Year Warranty. The line with quality built in, not bolted on. The line that gives your customers all-weather comfort and dependability at lowest operating cost. The line with every unit designed to install easier, last longer — with a minimum of trouble for your customers . . . fewer call-backs for you.

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The Finest in Home Heating since 1842...

INTERNATIONAL
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fueloil & oilheat

OHI of Oregon

(*Begins on page 22*)

terests began to eye the Pacific Northwest as a juicy plum for further market expansion. However, when applications were filed with the FPC and hearings got underway, resulting in thousands of dollars worth of free publicity for natural gas, the oilheating industry began to perk up. It was about this time also that the industry became aware that it had another strong adversary in the form of electricity which had slipped in through the back door.

In July of 1953, with grave concern for the industry's future, the association's newly elected president, Charles R. Holloway, Jr., and the incoming board of directors launched an intensive study into problems with which it would be faced when natural gas entered the market. The purpose of this study was to chart the association's future course of action and to determine whether or not the organization as it then existed, would be adequate.

As a result of these studies, a plan was initiated calling for a complete reorganization of the association and a long range program of work was created. Under the reorganization plan, the association office has been relocated and enlarged. The board of directors has been expanded to provide greater area representation. New committees have been formed, many fiscal procedures have been changed, new office equipment has been added, additional staff help has been employed to take care of the increased work load, and membership has been increased by 40%.

Most of the projects and services outlined in the program of work now are in effect. Others are scheduled to be initiated before the end of this fiscal year. The program of work of the OHI of Oregon has been founded on three basic points:

The oilheating industry has a story to tell and sell to the consuming public; a story that must be told forcefully through a hard-hitting sales promotion and advertising program.

Such a program cannot be a whitewash job. The industry and the association must tackle the problem of upgrading installation and service standards and attempt to bring customer relations practices to the highest possible level.

The Association must do everything within its power to adopt programs designed to assist its members in making their individual operations more efficient and more profitable.

These are the elements of that program:

Industry Integration: The OHI of Oregon program calls for the formation, throughout its entire Chapter area, of local industry groups, thereby providing representation at all levels.

Advertising and sales Promotion: A colorful and effective oilheating advertising campaign is being conducted in seven major Oregon markets. The campaign, which is handled by one of the leading advertising agencies on the West Coast, is running in all media. All oilheating markets in the Oregon chapter area are to be included in this advertising program during the next fiscal year.

Public Relations: The OHI is the

a 3¢ stamp is all it takes!

GILBARCO

offers new opportunities with its Oil Heating Equipment

NOW LOWER PRICED

Increased production and decentralized distribution facilities have made it possible for Gilbarco to set new low prices that meet and *beat* competition—without shaving dealer profit margins and without sacrifice of Gilbarco's traditionally high standards of quality.

You can sell more jobs, faster, and at a higher profit with this *complete* line, now priced at a level that will surprise you.

Find out about the best deal, the finest equipment, the most complete line in the industry.

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Dear Sirs: Send me all the facts today on your oil burner Dealer Plan.

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LENNOX uses Delavan Nozzles as Original Equipment

Delavan Nozzles are used as original equipment in many of the oil burners designed and manufactured by the Lennox Furnace Company. And the reason is simple. Top performance is demanded — and received. The famous Lennox Micro-Mix conversion model shown here contains remarkable economy, quietness and dependability — important qualities brought nearer to perfection with the help of Delavan Nozzles.

The first choice of more than 120 other leading oil burner and furnace manufacturers, Delavan Nozzles consistently deliver the same smooth, quiet, efficient fires whether used as original equipment or as replacements. Test them and you'll agree with the thousands of servicemen who won't use any other kind; there are no finer nozzles made. Order them for your replacement needs.

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Manufacturing Co.
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recognized voice of the oilheating industry in the Oregon market and handles industry relations with all segments of the public including customers, suppliers and press.

Codes: The OHI of Oregon is actively engaged in investigating existing state and municipal codes, to protect the industry from prejudicial treatment as well as to protect the best interests of customers and the general public. Wherever possible, the association attempts to secure representation on local code making bodies.

Government Relations: One of the functions of the Institute is the gathering and dissemination of laws and regulations affecting industry members and representation on behalf of the industry before governmental bodies.

Burner service Training: A burner service mechanics school, the first of its kind to be conducted in the Pacific Northwwest, started in mid-May. This five-hundred hour course is being sponsored jointly by OHI and Multnomah College in Portland, designed to turn out qualified mechanics, equipped to go into the field upon successful completion of the course. Graduates will be certified jointly by OHI and Multnomah College.

Employee Education: A sales training and customer relations program is being designed to make every employee a salesman for oilheating.

Accounting: Soon to be adopted is a uniform method of cost accounting and a comparative cost analysis study. This program will give each participant an opportunity to rate his operation against other companies doing the same volume of business and make it easy for him to spot costs that are running too high.

Publications: The Oil Heat Institute of Oregon publishes a monthly newsletter to keep member abreast of news and events concerning their business. Also, special bulletins containing information of vital interest to the industry are published from time to time.

Research: The OHI conducts a marketing research program to provide its members with information concerning markets, competitive fuels, and business in general.

Library: A library service is being developed to help members locate information which they themselves might not have access to.

Information Service: The Institute through the medium of publications and group meetings, offers members an excellent means of sharing ideas and information.

No story about the oilheating industry in Oregon would be complete without some reference to the excellent cooperation which the industry has received from the major oil companies. This is best evidenced by the recent formation of the OHI Regional Advisory Committee. Through the medium of the Regional Advisory Committee, representatives of the OHI of Oregon and the OHI of Washington meet regularly with top executives from each of the major oil companies supplying the Pacific Northwest market. It is the responsibility of this committee to plan and coordinate the public relations, sales promotion and advertising programs of the Pacific Northwest oilheating industry. Today, the Oil Heat Institute of Oregon represents some 175 members of all seg-

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Make More Profit

SELL KORTH NEW IMPROVED SHELL DESIGNED COMBUSTION HEAD OIL BURNERS

- Saves up to 25% on fuel oil bills.
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ALL AIR ADJUSTMENTS PRIMARY and SECONDARY MADE EXTERNALLY WHILE BURNER IS OPERATING

Model SR-SH
—SAVES FUEL—

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TRY ONE TODAY.

Start making more profit now. Send for new low prices and literature.

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"Seal of Quality"

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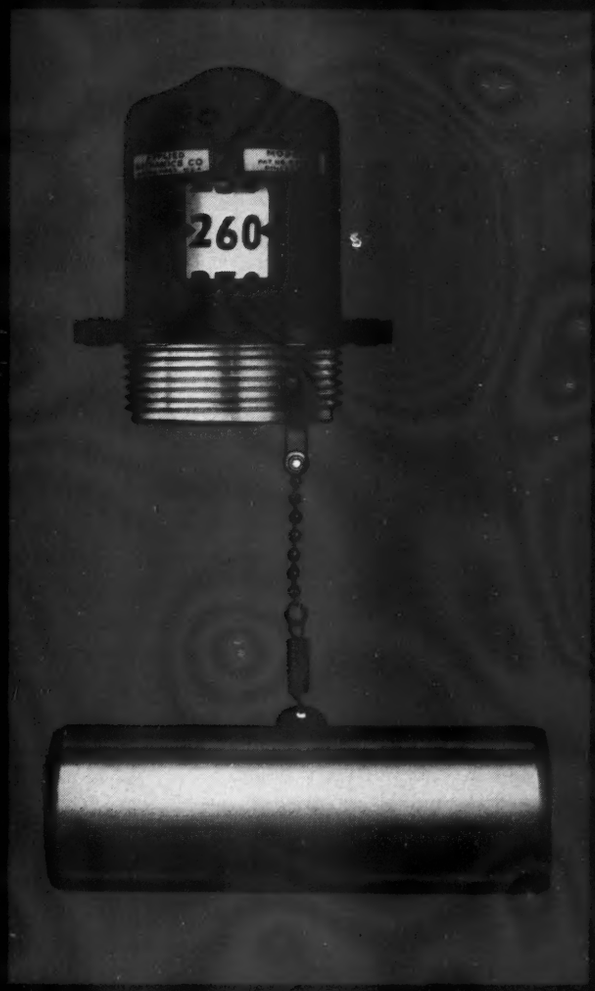

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Still has appearance of highest quality.

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Still fits easily into serviceman's kit.

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ments of the industry in the state of Oregon and southwest Washington. This marketing area constitutes an annual sales volume of approximately 270,000,000 gallons of distillate heating oils.

In January and February of this year, the *Oregon Journal,* one of Portland's metropolitan newspapers, conducted a consumer survey of the Portland market. The results of that survey indicate that better than seven out of every ten Portland homes prefer oil heat. The *Journal's* survey figures are as follows: Oil 73.9%, Wood 5.8%, Coal & Coke 4.9%, Sawdust 4.5%, Gas 9.6%, Electricity 1.3%. At present, it is estimated that there are 143,200 homes in the City of Portland.

The Oil Heat Institute of Oregon is proud of its many accomplishments in recent years. The inspired and enthusiastic leadership of its officers and the untiring efforts of its board of directors has done much to assure the association's success. However, none of its accomplishments would have been possible without the continuing support of an alert and aggressive membership.

It is estimated by officials of the Portland Gas & Coke Company that natural gas will hit the Oregon Market in mid 1956. Only then will the effectiveness of the Oregon program be determined. One thing is certain, however, when the "miracle fuel" does try to depose Oregon's dowager Queen of Heating, it will find no pushover, for the OHI of Oregon is out to prove that there is still plenty of life in the old gal yet!

❖

Stanley R. Hyett, Jackson, Mich., and *William D. Olive,* Omaha, Neb., have been named sales representatives for the Century Engineering Corp., Cedar Rapids, Iowa, and will cover the lower Michigan Peninsula, part of northwest Ohio, along with Kansas, Nebraska; and the westernmost counties of Iowa and Missouri, respectively. At the same time, *Arthur Hahn Co.,* Hartford, Conn.; *Modern Plumbing Supply Co.,* Rock Island, Ill., and *Sterling Hardware Co.,* Hazard, Ky., were named as heating and airconditioning wholesalers by Century in their respective areas.

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POWERFUL
motorpump
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Keep oil on the move—keep pumping costs down —keep payloads speeding to your customers!

There's a lot of power in these rugged and compact Motorpumps.

You'll find straight centrifugal as well as self-priming types to handle all your oil moving needs—faster and more profitably. Sizes from ¼ hp to 75 hp. Capacities range from 5 to 2800 gpm, and heads to 650 feet. They're designed to stay on the job for years with minimum maintenance.

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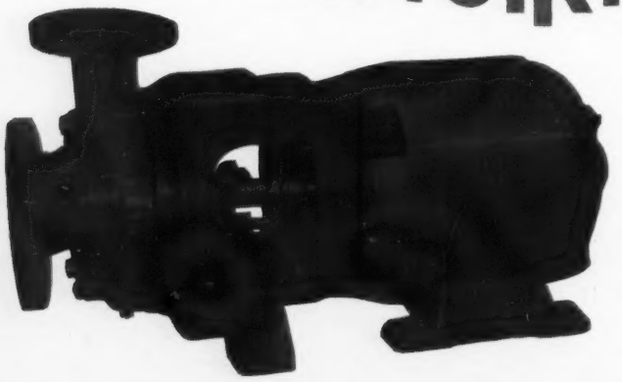

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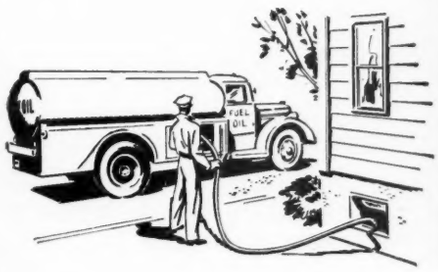
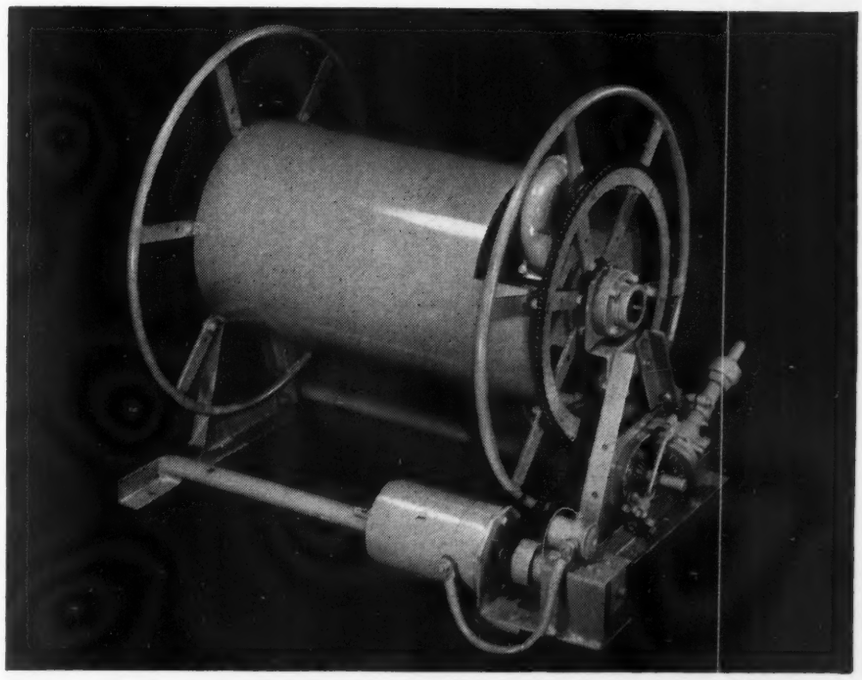
UNRESTRICTED FLOW

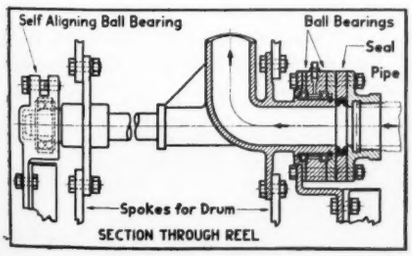
PHILADELPHIA HOSE REELS

mean fast deliveries





"Save time at the delivery point, and you save money." That is the consensus of tank truck operators everywhere, and it is one of the many advantages of Philadelphia Hose Reels.



Unrestricted passageway is clearly shown on the sectional view of the spindle and seal. Note the long radius curvature of the elbow, free from restriction. A self-tightening Neoprene seal is used. It is tight at high or low pressures and will run for many years without any signs of wear or leakage. Note that the ball bearings for the spindle are outside the passageway and not in contact with the fluid.

The actual fact is this: when a restricted flow reel is replaced with a Philadelphia Hose Reel, the resulting full flow means faster delivery—without changing either the pump or the hose.

Philadelphia Reels are light in weight and are built like a fine automobile. All parts are made of steel, malleable iron or bronze (no cast iron is used).

All shafts and bearings are equipped with ball bearings with hardened and ground races. Seven ball bearings are used on each reel. This means the reel will last many times longer than one equipped with plain bearings.

Prices No Higher. Quantity production of standard parts, plus many years of experience, enables us to build these high-grade reels at prices competitive with and in many cases lower than other makes. Philadelphia Hose Reels are made in all sizes from 1″ to 3″ with hand or power drives—electric, air or hydraulic. Underwriters' approved explosionproof motors when required (any voltage). Send for Bulletin No. 171.

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Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, California
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, California

Readers' Problems

Q. Would you please tell me what causes carbon to form on the inside of oilburning heating plants for small homes when 1.00 and 1.25 gph nozzles are used.

A.C.E., Hibbing, Minn.

A. Just as any of a number of shortcomings can cause an automobile engine to produce carbon and smoke, many shortcomings can cause carbon and soot to form in an oilheating plant. However, just as worn pistons and piston rings usually are the trouble in the car that produces smoke, in the case of the sooty furnace usually it's an inferior combustion chamber that's responsible for the excessive soot.

That statement is on the basis that you have tried to end the production of carbon by applying the usual service remedies, such as switching nozzles, adjusting for the proper amount of blower air, checking the chimney draft and adjusting for proper over-fire draft, etc.

Only highly intensive effort on your part can provide complete solutions for your problems. Concentrate on one job; if its combustion chamber does not become red hot when the burner runs for, say, 15 minutes, then replace it with the best fast-heating combustion chamber you can build.

Consider building the new chamber of insulating firebrick or other excellent material which you prefer. Make the walls exceptionally high and use a corbel or step-in design for the back wall.

If the burner is not of decidedly inferior design, you should be able to wind up with a reading of two on a smoke-checking instrument together with a CO_2 reading above 9%, possibly even up to 11%.

Of course, some furnace and boiler designs are better than others with respect to soot forming and collecting on heating surfaces. Some pressure burners are of decidedly better design than others, particularly with respect to the air-handling parts that make for poor or excellent ability to produce efficient soot-free flames.

For best results, a burner of truly excellent design must be used. In overall, excessive soot is not formed by excellent oilheating equipment which is installed and serviced excellently.

Q. I think Pate's idea, p. 64 of your April issue, is good as far as stopping the circulator goes, but I don't like the many oilburner "on" and "off" periods that result from connecting the oilburner to the water-flow switch. So why not wire the water-flow switch in series with a good fast-acting boiler temperature control? Either would cut off the circulator.

As long as hot water is being drawn

A Warm Friend For Cool Profits!

You make a *warm friend* when you switch to Sinclair SuperFlame® Fuel Oil – a friend to help you win *many more* friends . . . by building customer good will.

Sinclair SuperFlame builds good will because it offers anti-rust protection at no extra cost. SuperFlame contains Sinclair's exclusive rust inhibitor, RD-119®. Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles. Result:—fewer service calls and *greater customer satisfaction.*

To build good will – and *boost profits,* switch to Sinclair SuperFlame Fuel Oil *today.* Write Sinclair Refining Co., 600 5th Ave., N. Y. 20, N. Y.

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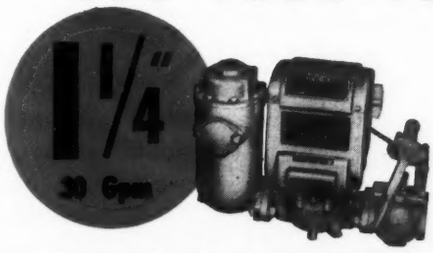
FUEL OIL with RD-119®
SO DIFFERENT – IT'S PATENTED

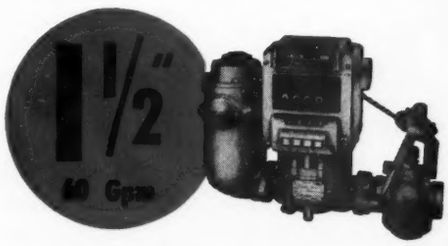
ANTI-RUST Super Flame ®

There's an efficient
NEPTUNE RED SEAL METER
for every job

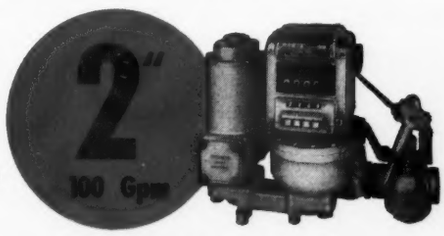
FOR TANK TRUCKS



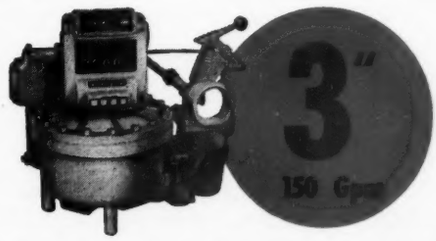
1¼" Tank Truck "Compact" (30 Gpm)—Ideal for small tank trucks. All accessories required for accurate metering are built in. Adaptable to right-hand, left-hand or angle arrangements.



1½" Tank Truck "Compact" (60 Gpm)—For medium sized fueloil, gasoline or dual-service trucks. Meter, register, Auto-Stop valve, air release, and back pressure valve are all assembled in one easy-to-install, space-saving compact unit adaptable to many arrangements.

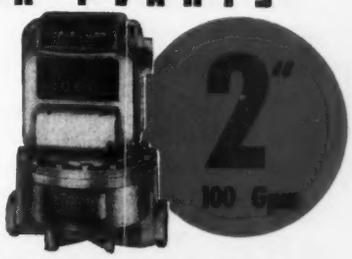


2" Tank Truck "Compact" (100 Gpm)—Meets trend to larger trucks, faster deliveries. All-purpose unit contains all accessories needed. Flexible assembly fits easily into most piping and space conditions. Easy to operate and maintain.

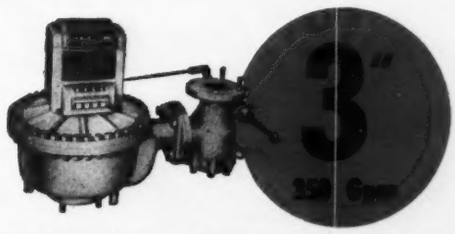


3" Red Seal "Compact" (150 Gpm)—Used for larger tank trucks, such as gasoline trucks and transports. Adaptable to either pump or gravity delivery. Like other Red Seals, it's the ultimate in sustained accuracy and low maintenance.

FOR BULK PLANTS



2" Bulk Plant Meter (100 Gpm)—For low-volume bulk plant applications. Extremely accurate and trouble-free, with sustained accuracy and long-life assured by sound engineering, high-quality materials and careful manufacture. Smaller 1", 14 gpm., 1¼", 30 gpm., and 1½", 60 gpm. meters also available.



3" Bulk Plant Meter (350 Gpm)—Rugged, precision-engineered, with all the reliability of popular Red Seal tank truck meters. Fast becoming the standard of comparison among meters for loading racks. New Auto-Stop valve now permits faster delivery, smoother cut-off.

4" Bulk Plant Meter (650 Gpm)—Ideally suited for high-capacity requirements of modern bulk plants. Now available with the Auto-Stop register and double-trip cushioned valve.

RED SEAL REMOTE CONTROL METERING SYSTEM

gets trucks rolling minutes faster . . . with all control firmly under the thumb of one man. Each rack meter is accurately synchronized with a Remote Control Print-O-Meter inside the office. Automatic interlock prevents withdrawal of product until authorized.

neptune
RED SEAL METERS

NEPTUNE METER COMPANY • 19 West 50th St., New York 20, N. Y.

at a high rate, the circulator would be kept idle by the water-flow switch. Following that the reverse-acting control would keep the circulator idle as long as necessary for recovery.

This water-flow switch arrangement would not be good for jobs on which hot water is drawn continuously (restaurants, for example) because it would keep the circulator idle for long periods of time, which would interfere with proper heating.

Who makes these water-flow switches? Are they obtainable as separate units? I have seen them only as parts of garbage disposal units.

P.C.B., Quincy, Mass.

A. Wired in series with a fast-acting boiler temperature control (reverse-acting type), the water-flow switch certainly will give the results you desire and describe. When the boiler temperature drops a bit, to follow your pattern of thinking, the burner would be started promptly by a fast-acting boiler temperature control well located in the boiler.

Additional applications for the water-flow switch, in the oilburner field, undoubtedly will be developed. Such a switch serves excellently, for example, to start and stop a circulator used on an apartment-house job to rush boiler water through the shell of an external tankless water heater, for logically the circulator should be running only when hot water is being drawn at a high rate.

As was indicated in a caption on p. 64 of the April issue of FUELOIL & OIL HEAT, Walker M. Pate has his water-flow switches made to his specifications by a control manufacturer. As the article about Pate's instant-acting control set-up indicated, he has taken steps to protect his unique control ideas by patents. It is likely that he will cooperate with you, and other highly intensive oilburner experts having academic interest in these matters, by selling you water-flow switches for such experimental applications as you describe. You can obtain details by writing Walker M. Pate, The Pate Company, Walnut at Moore Sts., Darby, Pa.

Q. In your new book, FUNDAMENTALS OF OILBURNER CONTROLS, *we certainly got our one dollar's worth—knowledge of practical electricity and basic burner controls we gained from the book in three evenings is already worth ten times the cost of the book.*

On p. 14 in a question-and-answer, you describe one of our jobs precisely. It soots its stack control three or four times a year no matter how we adjust the oil, air, etc. Burner is the usual pressure atomizing and flame soots and smokes no matter which nozzle we try. New at servicing burners, we haven't been able to guess what the trouble is.

F.C.D., Bronx, N. Y.

A. First guess: The job needs a modern, rapid-heating, high-side-wall firebox. To learn about building such fireboxes, read the section "Efficient Fireboxes Save Oil!" of our $2 book, "Installing the domestic Oilburner."

Second guess: The oilburner is not of modern design, therefore needs a new firing head or new and highly effective air-handling parts in its gun tube. Oilburners of poor design cannot produce clean, efficient flames.

So many, many more
since 1937
Fulflo Filters
PATD. AND PAT'S PEND
FULFLO FILTERS
Fulflo FILTER
FB4
UL
More FULFLO Filters than any other make are on the Oil Burners of America because so many dealers have learned that FULFLO quality stops costly service calls and assures heat-happy home owners
...And heat-happy home owners are the kind of customers your profits come from
Stop COSTLY SERVICE CALLS WITH FULFLO FILTERS
Their HONEYCOMB Filter Tubes assure true Depth Filtration and Precision Controlled Density
COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

PEERLESS

OF BOYERTOWN PENNSYLVANIA

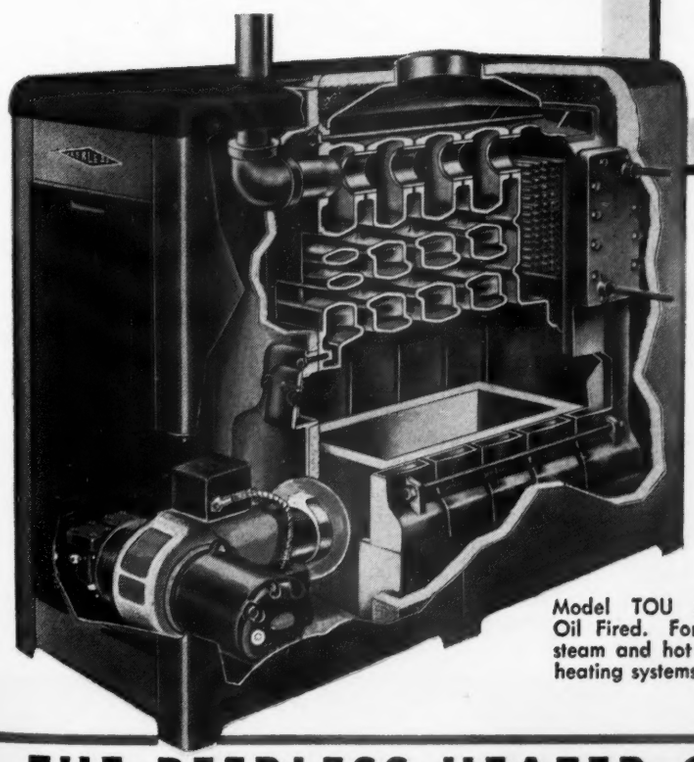
SINCE 1908

Oil & Gas Fired "WET HEAT"

CAST IRON BOILERS

MORE and MORE, Architects, Contractors and Home Owners are specifying CAST IRON BOILER, HOT WATER and STEAM heating systems in residential and industrial construction.

WET HEAT and CAST IRON BOILER SALES ARE UP — YOU'LL BE PREPARED TO MEET THIS DEMAND WITH PEERLESS



Model TOU Series, Oil Fired. For both steam and hot water heating systems.

There Are Many Advantages To Being a PEERLESS DEALER

Peerless manufactures a complete line of Oil and Gas Fired CAST IRON BOILER heating units, Serving Residential Homes, Apartments, Home Projects and Industrial Buildings.

WILL STEP UP YOUR SALES
Put YOU in a Better Competitive position to handle all Oil and Gas Fired Hot Water and Steam heating systems.

Factory and dealer relations are closely knit to build good will and keep it.

You'll get many sales aids: Complete jobber catalogue with easy to read specifications and descriptive illustrations, 2-color folders, consumer and industrial magazine advertising, regional and national show displays, factory engineering information upon request.

Peerless products are backed by experience of nearly 50 years in the manufacture of Home and Industrial Gas and Oil Fired heating units.

Certainly you'll want to know more about the Peerless complete line, and the new MM, the "Mighty Midget". Just announced, a revolutionary new small, but powerful, residential heating unit. Write for complete information

THE PEERLESS HEATER CO.

Division of Eastern Foundry Co.

BOYERTOWN, PENNSYLVANIA

PEERLESS HEAT

SINCE 1908

fuel oil & oil heat

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 15th.

New York, Jersey Oilmen meet for OIIC District Clinic

MEN FROM THE petroleum industry met in Absecon, N. J., June 23-24, for an Oil Industry Information Committee Clinic. Members of the District Operating Committee and 21 regional OIIC chairmen from New York and New Jersey worked on a more closely knit program for the remainder of 1955.

John Harper, Harper Oil Co., presented a report for the Fueloil Committee and described a program that is entirely new in the District. The idea of the committee is to identify the fueloil dealer more directly with OIIC programs and to gain support for conditions under which the dealers can continue to be privately managed, fully competitive and financially sound.

The committee pointed out that OIIC has prepared relatively few promotion pieces for the fueloil dealer. Harper made some suggestions as to areas in which promotion help would be appreciated.

He suggested that fueloil dealers approve OIIC's copy before mats for newspapers are made, citing some copy which would have been embarrassing to the industry. Promotion pieces that would be used by dealers if supplied at low cost on quantity basis are envelope stuffers, bumper strips, truck signs, and window displays.

It was thought that consideration should be given to featuring domestic fueloil distribution in some of the functions and activities planned for Oil Progress Week.

Western Massachusetts Group elects new Officers for 1955

THE FOLLOWING OFFICERS were elected recently by the Fuel Oil Council of Western Massachusetts: Saul Simons, president; James L. Grimaldi, vice-president; Albert B. Rubin, second vice-president; Miss Mae Davis, recording secretary; Wilbur J. Hogan, treasurer, and Mrs. Helen M. Chouinard, assistant treasurer.

At the conclusion of the business meeting Philip Kaplan, General Oil Co., Hartford, Conn., spoke to the group on oilburner service costs, quoting figures to show that free service was non-existent as far as the costs to the fueloil dealer were concerned.

Dick Murphy, vice chairman of the OIIC for the area, and district manager for the American Oil Co., concluded the meeting with a short talk and a showing of the film "Colonel Drake."

IBR sponsors short Course at Purdue with 60 attending

SIXTY SALESMEN and installers of boiler heating systems recently attended a short course sponsored by the Institute of Boiler and Radiator Manufacturers in conjunction with Purdue University and held on the University's campus.

Now! A NEW LINE OF Firomatic FUEL OIL FILTERS

NEW! Rugged Modern Filter Design
NEW! "Controlled Filtration" Cartridges
NEW! Modern Package Design

The new Firomatic filters are constructed to keep oil burners operating at peak efficiency—longer! Ruggedly built, they're designed for fast, easy maintenance and cleaning. Scientifically designed replacement cartridges filter out all destructive impurities to give oil burner longer life, greater efficiency.
Add these fine Firomatic Filters to your line for greater profits, fewer call-backs. Sold nationally by jobbers only.

THE MORSE SMITH MORSE CO.
165 Dexter Avenue • Watertown, Mass.

Profit by personalized selling tools!

Most complete selling literature lineup in the industry, to help you "be Mr. B" in your city. Personalized with *your name* and **BRYANT** sales message, of course.

be "Mr. B"

(AUTHORIZED BRYANT HOME COMFORT DEALER)

Only "Mr. B"—the Bryant Home Comfort Dealer—has *all 8* of these selling assets to build his business BIG:

1. A name customers know and want
2. The most complete line of automatic heating, air conditioning, water heating
3. Quality equipment for every market
4. Exceptional distributor service
5. Professional sales training
6. Personalized selling tools for you
7. National advertising featuring you
8. Co-op "Mr. B" ads for local papers

For bigger profits now, for a secure and prosperous future—see your Bryant Distributor. Ask him about Bryant's big "Mr. B" action program, and how it can make sales and money for you!

bryant®

AUTOMATIC HEATING
AIR CONDITIONING
WATER HEATING

fueloil & oilheat

Professor William T. Miller, of Purdue's School of Mechanical Engineering, directed laboratory demonstrations on the performance of circulating pumps, showing how a high velocity pump will give the characteristics of a bigger pump, and also the effect of an over-sized pump on the distribution balance.

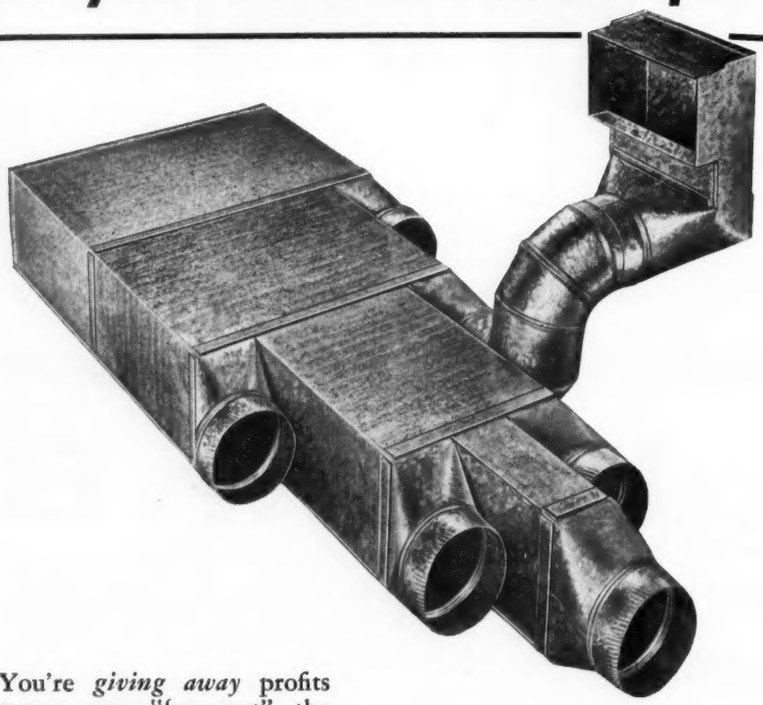
The course work, which was devoted to design problems, started with the fundamental principles of determining the heating requirements of a building, the selection and sizing of equipment, and the layout of distribution systems to supply heat evenly.

More advanced students worked on design problems for larger buildings and special applications. Such problems included baseboard heating layout of piping for zone control of an apartment house, and multiple purpose systems (steam and hot water) in their applications for churches or service stations.

Refrigeration and airconditioning were included also in the course, and the application of chilled water systems for airconditioning was described.

In charge of the course work was Arthur L. Wales, technical secretary of IBR.

Keep ALL the Profits
on your next warm-air job!



● You're *giving away* profits whenever you "farm-out" the ductwork on your furnace installations. You can easily handle the complete job yourself with "Snap-Rite" prefabricated ducts and fittings. You don't need a sheet-metal shop or special equipment—the patented quick-locking feature of "Snap-Rite" ducts and fittings makes them easy to assemble.

Shown above is our most popular and simplified No. 160 line which consists of a square main trunk with round branch lines. This is accomplished through the use of our standard stock trunk pipe with "pre-notch" feature and our No. 160 round branch takeoff as illustrated, effecting a reduction in size of main trunk at each branch. This method produces a neat air-tight installation, low in cost and easy to balance.

Write for our catalog now and keep ALL the profits on your NEXT job!

GRAY METAL PRODUCTS, INC.
P. O. Box 1449 **Rochester, N. Y.**

Midwest Old Timers have Party at Racine (Wis.) Country Club

THE ANNUAL Midwest Old Timers Gol-Fun Party will be held at the Racine Country Club, Racine, Wis., August 12. Webster Electric is sponsoring the outing according to Charlie Bendix, regional chairman.

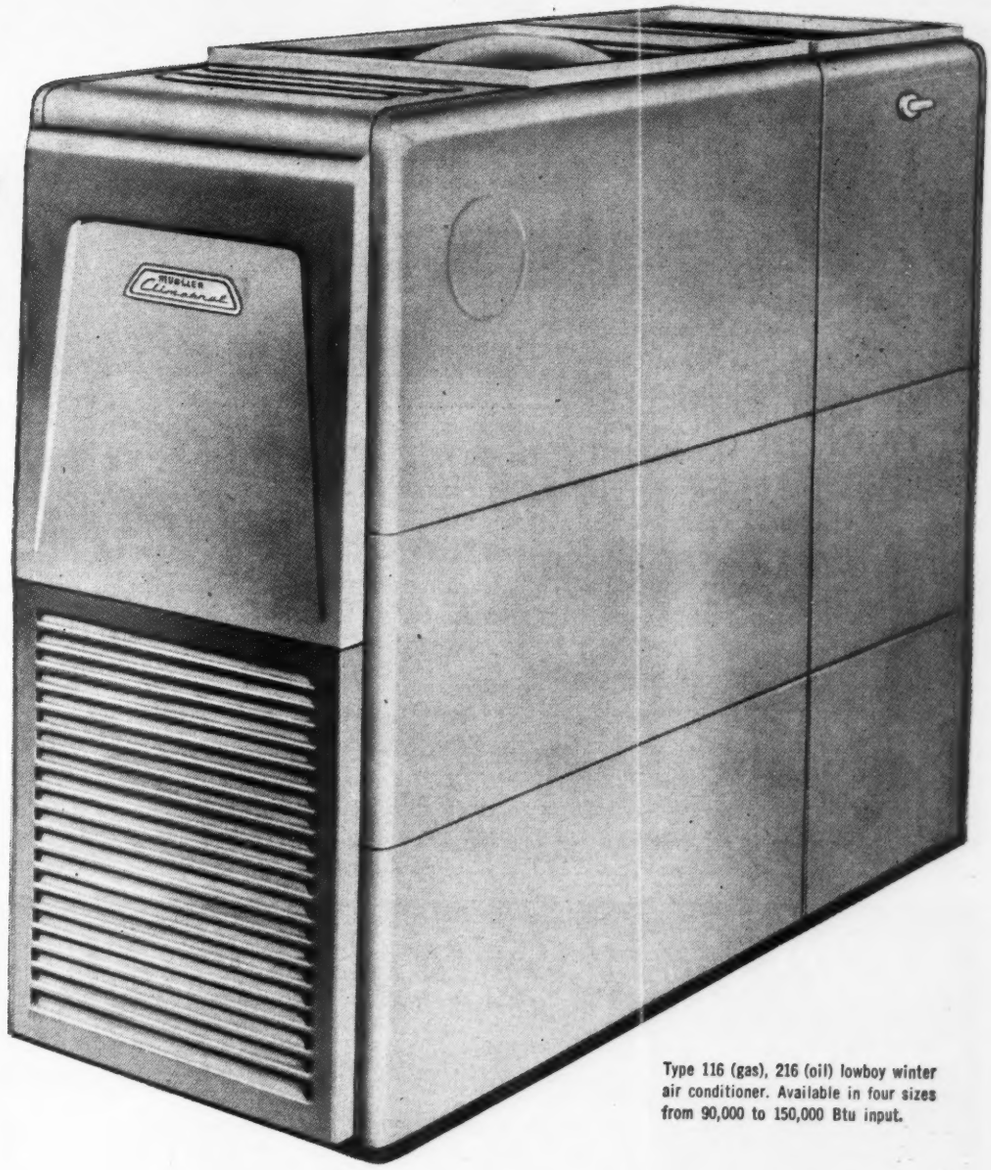
Among manufacturers contributing prizes to the affair are Automatic Burner Corp., Conkey & Co., (Field Div.), Dole Valve, Eureka Williams, General Controls, McDonnell & Miller, Mercoid Corp., Minneapolis-Honeywell, Penn Controls, Sundstrand Engineering, Sundstrand Machine Tool Co., Union Asbestos & Rubber Co., and Webster Electric.

Oilburner Rules authorized by Connecticut Legislation

BOTH HOUSES of the Connecticut Legislature have passed an "Act concerning Installations of Oilburners," sponsored by the Connecticut Petroleum Association, New Britain, Conn. The act, which authorizes establishment of rules to determine minimum requirements for burner jobs, provides:

"The commissioner of state police shall make regulations prescribing reasonable minimum requirements for the installation of oilburners and equipment used in connection therewith, including tanks, piping, pumps, control devices and accessories. In the writing of such regulations, commissioner may be guided by recognized national standards for the prevention of injury to life and damage to property, and protection from hazards incidental to the installation and operation of such oilburners and equipment. No regulation made in accordance with this act shall be inconsistent with the provisions of Section 3682 of the general statutes, nor apply to premises used for manufacturing, nor to public service companies as defined in Section 5330, nor impair the rights of municipalities to enact ordinances and make rules and reg-

Quality built...



Type 116 (gas), 216 (oil) lowboy winter air conditioner. Available in four sizes from 90,000 to 150,000 Btu input.

Mueller Climatrol

Quality best describes Mueller Climatrol — best describes Mueller Climatrol design, materials, and workmanship. Behind Mueller Climatrol quality are advanced engineering and modern manufacturing methods — methods that permit precision production and insure precision performance of the finished product. Behind Mueller Climatrol quality, too, is continuous inspection of each unit.

Because Mueller Climatrol never compromises on quality, you get strong talking points that give you the edge in competitive selling. Put Mueller Climatrol advantages to work for you. Write us: Mueller Climatrol, Dept. 185, 2050 W. Oklahoma Avenue, Milwaukee 15, Wisconsin.

The Most Complete Line

A Deluxe Line for custom homes, modernization jobs: highboys, lowboys, companion units.

The Suburbanaire Line for competitive jobs, housing projects: gravity, counterflows, horizontal, highboys, lowboys.

A Commercial Line of unit heaters, boilers and packaged air conditioners in a wide range of sizes.

A Conversion Line of add-on cooling, conversion burners, incinerators, blower-filter units, a recessed summer conditioner.

A Cooling Line second to none. Air-cooled and water-cooled in wide range of sizes — deluxe units, packaged units, add-on units, self-contained and remote units.

98th Anniversary

NEARLY 100 YEARS OF MANUFACTURING QUALITY COMFORT EQUIPMENT

ulations for the installation of oilburners and equipment so far as such ordinances, rules and regulations specify requirements equal to, additional to, or more stringent than the regulations issued under the authority of this act."

Program Aids announced for Oil Progress Week

PUBLIC RELATIONS aids that oil men throughout the nation will be able to use during the eighth annual observance of Oil Progress Week, October 9-15, were listed recently by the Oil Industry Information Committee of the American Petroleum Institute.

Among the many items that will be available this year are a new motion picture, "Barrel Number One"; an eight-page, four-color souvenir booklet based on the motion picture; envelope enclosure which explains the role played by petroleum in technical progress; a cutout kit, designed for distribution as a souvenir. Also, a window poster, fueloil banners, bumper strips, lapel buttons, billboard snipes, and various tie-in newspaper advertising mats, radio-TV commercials and pattern scripts.

Maine's governor, *Edmund S. Muskie, gives Edward P. Hacker the pen which signed the oilburner licensing bill into law. The new state law was backed by the Maine Oil & Heating Equipment Dealers' Association and became effective in August. From left to right are Representative James Stanley, Mort D. Harris, Governor Muskie, Hacker, president of MOHEDA and Donald H. McGovern, executive secretary of the organization.*

In addition, plans have been made for a nation-wide television show, entitled "1976," to inaugurate this year's observance of the week. Narrated by Sylvester L. Weaver, Jr., president of the National Broadcasting Co., the show will be broadcast on Sunday, October 9, and is to be produced by Ben Park, NBC director of public affairs.

For further information concerning the various public relations aids available to fueloil men, letters should be sent to District Offices of the OIIC or the Oil Industry Information Committee, 50 West 50th St., New York 20.

NEW! IMPROVED! GENERAL FUEL OIL FILTERS

Models 1A-25A and 2A-700A Offer These New Features

1. RESTYLED SEAL IN FILTER CAP PREVENTS LEAKAGE
2. CUPPED RIM IN BOWL FOR EASIER SEALING
3. NEW BUNA GASKET COMPOUND

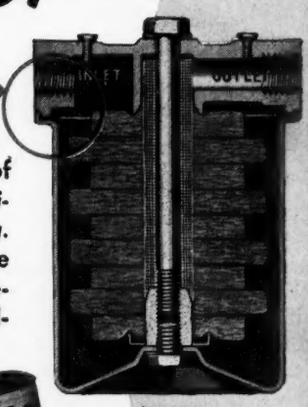
ABSOLUTELY LEAKPROOF

IMPROVED 1A-25A

IMPROVED 2A-700A

DELUXE 2A-300

for big dirty jobs. Depth-type, metal encased cartridge. Exclusive screw-type handle release.



Won't Clog . . . Won't Crack

Complete restyling of the cap, seal, and gasket of General Filters 1A-25A and 2A-700A *positively eliminates any danger of leakage or improper sealing.* GENERAL'S CUPPED-RIM *all-steel* filter bowl holds the new BUNA gasket securely in place against the redesigned *cast iron* CAP SEAL . . . provides easier sealing . . . lifetime dependability!

CLEAN RIGHT SOOT REMOVER

removes up to ½" layer of soot from any heating plant in 2-5 minutes! Non-corrosive, non-explosive. Made specially for General Filters.

GENERAL FUEL OIL FILTERS —the ORIGINAL Filter— Are More Dependable Than Ever!

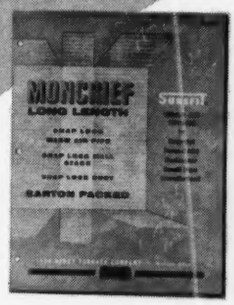
GENERAL FILTERS, INC.

43800 GRAND RIVER AVENUE • NOVI, MICHIGAN

Canadian General Filters, Ltd. • 39 Crockford Blvd. • (Scarboro) Toronto, Canada

MONCRIEF

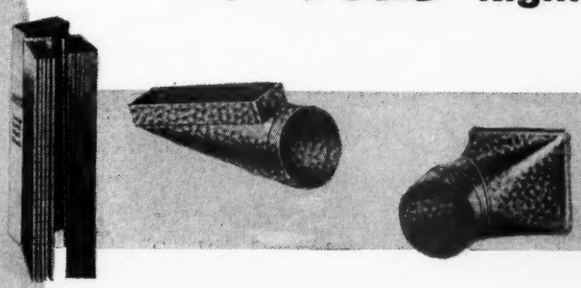
SUREFIT® CARTON-PACKED SNAP LOCK PIPE AND FITTINGS



Completely illustrated, new, 16-page Catalog is yours for the asking. Write, today, for your FREE copy and the name of your nearest Moncrief Fittings Wholesaler.

ADI
STANDARDIZED
DUCTWORK

- **Made Right**
- **Fit Right**
- **Packaged Right**
- **PRICED Right**



Snap Lock Round Pipe . . . Snap Lock Duct . . . Snap Lock Wall Stack . . . Now Available in LONG LENGTHS

For installations requiring long runs Moncrief Snap Lock pipe, duct and wall stack are furnished, carton-packed, in easy-to-handle 5 ft. lengths.

Available for Extended Baseboard . . . Perimeter System . . . Outside Wall Diffuser Installations

2¼" x 12" Snaplock Fittings Are Now Available

The up-to-date way to make better, more economical installations is with Moncrief Snap Lock Pipe, Duct, Stack and Fittings. Machine fabrication in our mechanized shop provides lower prices and factory quality control. Ingenious Snap Lock provides easier handling and surer fit. Carton Packing protects against shipping damage and corrosion in storage.

With the busy installation season just ahead, there's one sure way to save installation time and money. That's with Moncrief Surefit Pipe and Fittings.

It will pay you to order your requirements from your Moncrief Fittings Wholesaler, now!

THE HENRY FURNACE COMPANY • Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

Du Pont's Edson addresses Norfolk OHA on Additives

ALTHOUGH fueloils for home furnaces are presently good, K. C. Edson, additive specialist for Du Pont Company's Petroleum Chemicals Division, told a recent meeting of the Norfolk (Virginia) Oil Heat Association, "they can be improved upon by the use of chemical additives."

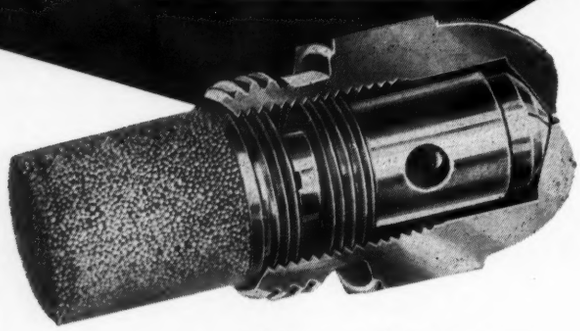
Noting that with increasing demand for gasoline and distillate fueloils refiners have developed processes to get more of these two products from a barrel of crude oil than was previously possible, Edson emphasized that newer type fueloils provide even more heat per gallon than earlier fueloils.

Along with the new fuels have come new problems, he continued, such as sludge and particle formation, tendencies of fueloil to oxidize and rust tanks while in storage.

Latest problem being considered, the chemist said, centered around the development of an additive which will prevent the formation of carbon deposits when fueloil is burned. And, he continued, "we are equally eager to develop something which will make fueloils flow as readily in below-zero weather as in warm weather. We also would like to help the fueloil marketer by developing an additive to prevent change of fueloil in storage."

"We have come a long way in solving some of these major problems," he concluded, "and in cooperation with the oil industry we think we can go even further to improve this important petroleum product."

A GOOD TIP from Monarch



"24" & "48" Nozzle Boxes

Don't jumble your nozzles loosely in your tool box like "nuts and bolts" if you expect them to be usable. Carry them securely in these sturdy, compact steel boxes.

FLAME MIRRORS

Until you can see the flame you can't tell whether or not a burner is firing properly! With a Monarch Flame Mirror you can see to check that the flame is balanced, the electrodes properly located, and that there is no flame impingement on the firebox or air cone.

6 Monarch Features

1. Every Tip individually tested for Spray Angle and Capacity—your guarantee of uniformity.
2. Self-Centering internal assembly always produces a balanced spray—No lopsided fires.
3. Micro-Finish of Tip and Disc seats plus extremely close manufacturing tolerances insure accurate capacity control.
4. Will handle any domestic oils currently being supplied in the United States or Canada.
5. Tip, Disc and Locknut are made of a High Chrome Stainless Steel for maximum heat and wear resistance.
6. Five different series available for producing various spray characteristics — all developed through hundreds of fire tests in both Laboratory and Field work.

WRITE FOR CATALOG "O"

DEALERS: Buy from your Monarch Jobber

Monarch MFG. WORKS, INC.

2503 E. ONTARIO ST., PHILADELPHIA 34, PA.

Canadian Sales Agents: (Except B.C.) Canadian General Filters Ltd., 2679 Danforth Ave., Toronto 13, Canada

Henry Auld elected President of Oregon's Oil-Heat Institute

HENRY C. AULD, JR., Eugene, was elected president of the Oil-Heat Institute of Oregon at the annual meeting in Eugene, June 18. He succeeds Charles R. Holloway, Jr., who was president for two years and who will continue as chairman of the board of directors.

Cliff Arnston, Portland, was elected vice president; Bob Hemphill, Portland, treasurer; and Joe Young, Hood River, secretary. Named to the board of directors were Vic Milnes, Medford; Howard Smalley, Salem; Bill Moersch, Beaverton; Jim Coon, Jr., Portland; Ken Gustafson, Eugene; Auld; Merle Browne, Oregon City; Joe Young, Doug Power, Vancouver; Bob Hemphill, Fred Macdonald and Cliff Arnston, all of Portand.

The association's 1955-56 advertising program was presented by George Griffis, Pacific National Advertising Agency. Also on the program was George Zeagas, Van Waters & Rogers chemical engineer, who discussed the cause and effects of tank failures.

Henry C. Auld, Jr. *(left) newly-elected president, Oil Heat Institute of Oregon and Richard B. Kluzek, assistant manager of the organization.*

the Right Combination

THRUSH FLOW CONTROL VALVE WITH AIR TUBE

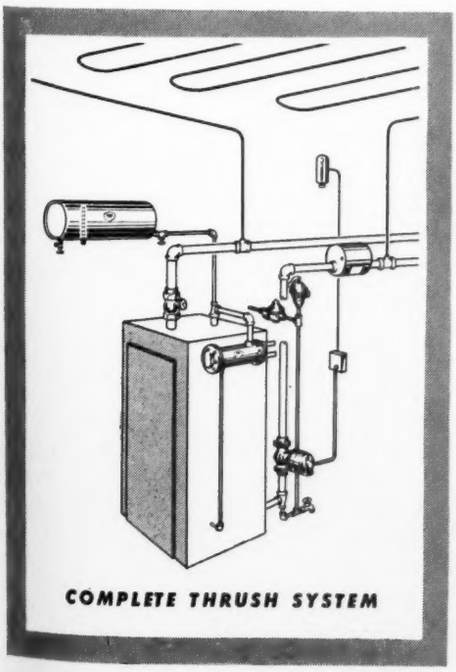
THRUSH WATER CIRCULATOR

FOR BETTER HOT WATER HEAT AT LOWER COST

YES, THIS IS the combination that means better hot water heating at lower cost. The Thrush Water Circulator used with the Thrush Flow Control Valve with Air Tube provide positive circulation, positive control of heat in the system, PLUS positive Air Elimination. Just two units do all three jobs . . . with less material cost and easier installation.

Make sure your customer will enjoy really uniform, economical heating with the complete Thrush System. It makes any job, old or new, heat better, with reduced fuel cost. There is no noticeable variation in room temperature in any weather. Plenty of hot water for kitchen, laundry and bath is provided by the same heating boiler, winter or summer. Learn more about the advantages of Thrush Radiant Hot Water Heat now.

See your wholesaler today or write Department C-8 for more information



COMPLETE THRUSH SYSTEM

H. A. THRUSH & COMPANY

PERU, INDIANA

fueloil & oilheat

bad trade practices which will be used to follow through on complaints will be instituted. In addition, a Kardex file of manufacturers showing their selling practices and policies in each area of the country will be set up. The program will be carried out under the supervision of the trade practices Committee.

Trading area Organization: Promote trade area development and organization, furnish aids for use in spreading the group's base and effectiveness, stimulate new memberships.

Statistical Committee: Reactivation of former statistical compilation on operating costs, and a survey of membership on what the membership wants in the way of statistics.

Group insurance Program: Census of membership to determine the need for group insurance.

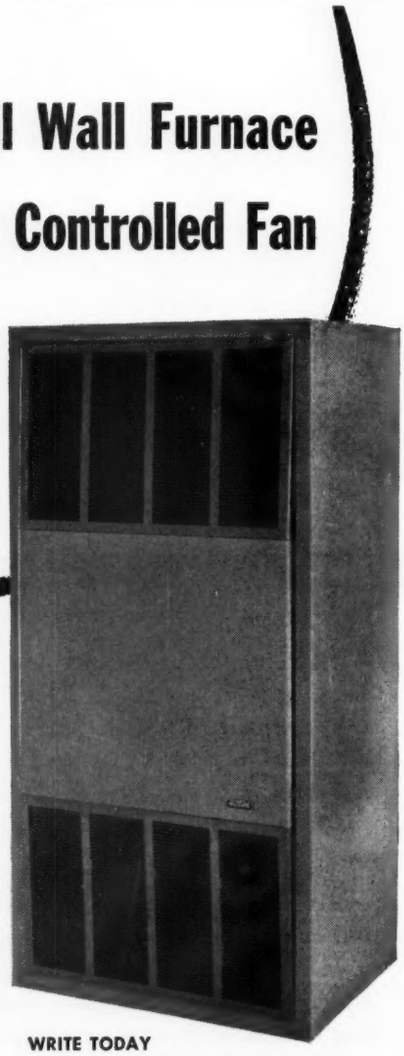
Member Services: Establish a regular bulletin service, act as a clearing house for inquiries, manage and administer the affairs of the Association as defined by the president and policy making body.

Conventions: Prepare a format to be followed in advance of each convention, and assist in the planning and organization of meetings.

New H. C. Little Oil Wall Furnace Features Thermally Controlled Fan

All previous H. C. Little advantages retained in new model, with added sales appeal of forced warm air circulation!

Here is the stuff that Sales are made of!



Low first cost

Low-cost installation – no ducts required.

Top smoke pipe outlet – located dead center.

Compact design – 30″x24″x62″.

Dual heat discharge and cool air intake registers.

Heat even if electricity fails – unit can be operated by hand during power failure.

Economical operation – unit burns low cost furnace oil and specially designed combustion chamber has very high efficiency.

Full on, full off operation – with electric ignition and thermostat control.

Big heat output – 65,000 BTU per hour.

Quiet operation – no "blow torch roar."

No radio or TV interference – no high voltage spark.

Attractive finish – neutral hammertone baked enamel.

Listed by Underwriters' Laboratories

WRITE TODAY
for literature, prices and Dealer Franchise Plan.

Warehouse stocks in key cities Coast to Coast.

H. C. Little Burner Company, Inc.

San Rafael, Calif.

Fan Manufacturers name Officers for coming Year

THE NATIONAL Association of Fan Manufacturers, Inc., at its annual meeting at The Homestead, Hot Springs, Va., elected the following officers: C. C. Cheyney, president; R. W. Nelson, vice-president; G. W. McCormick, Jr., secretary- treasurer.

Cheyney is a vice-president of Buffalo Forge Co., and Nelson is a vice president of American Air Filter Co., Inc.

Named to the board of directors at the same meeting were: C. C. Cheyney, chairman; H. E. Barth, American Blower Corp.; R. G. Lubinsky, The Trane Co.; R. W. Nelson; and G. W. McCormick, Jr., National Association of Fan Manufacturers, Inc.

N. C. Oil Jobbers plan annual Fall Meeting in Blowing Rock

MEMBERS OF THE North Carolina Oil Jobbers Association, headquarters, Raleigh, will meet for their annual convention, Sept. 5-7. The meeting will be held at Blowing Rock located in the Blue Ridge Mountains.

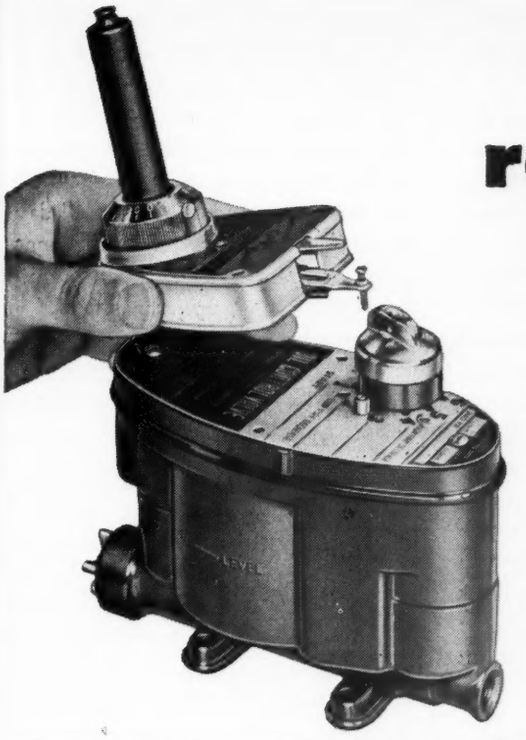
While the convention does not begin until Sept. 5 many members are expected to arrive the preceding Friday.

The associations fueloil advertising committee consisting of Frank Nabers, James E. Harris, H. F. Dumaresq, Don Ward with Charles D. Burnette presiding met recently. They discussed the advisability of a statewide advertising program.

Blower Manufacturers elect F. W. Brundage President

AT A MEETING in Chicago, June 8, the Air Conditioning Blower Manufacturers' Association, Cleveland, elected F. W. Brundage president. Thompson Morrison is vice president; and W. W. Morrisey, secretary and treasurer.

Morrison will head the publicity committee made up of Ben Krause,



61 good reasons why A-P oil controls are first . . . everywhere

It's because of competent management and capable personnel in our 61 factory-trained repair and parts replacement stations serving you from coast to coast

•

Periodic visits to service stations by A-P factory personnel help to train service station operators on improved techniques and acquaint them with new products.

IT'S mighty comforting to us to know that such expert hands are available for A-P oil controls whenever field service is required. We're certain you appreciate the fact, too, that only genuine A-P parts, approved tools and methods are used. Little wonder, then, why the "like new" performance promotes extra good customer relations for you.

Make it a point to get acquainted with your nearest A-P service headquarters soon.

DEPENDABLE Controls

For Air • Liquids • Gases • Refrigerants

A-P CONTROLS CORPORATION

2458 N. 32nd Street, MILWAUKEE 45, Wis.

COOKSVILLE, Ontario NIJMEGEN, Holland

For Export: 13 E. 40th Street, New York 16, N. Y., U.S.A.

These service stations also carry a complete stock of A-P Oilifters, thermostatic and electric conversion tops and filters

CALIFORNIA: Los Angeles, George T. Hall Company • **COLORADO:** Denver, Instrument Service Company • **CONNECTICUT:** New Haven, Bell Pump Service Company, Hartford, Bell Pump Service Company, Stamford, Westco Burner Parts Company, Inc. • **FLORIDA:** Orlando, Jobber Services, Inc. • **GEORGIA:** Decatur, Southeastern Control Center & Distributors, Inc. • **ILLINOIS:** Chicago, Robert Barclay, Inc., Chicago, Sarn-Oil Burner Supply Company, Chicago, F. E. Uchison Company, Rockford, Oil Heat Parts Service, Peoria, Polar Supply Company • **INDIANA:** Gary, G. W. Berkheimer Company, Inc., Indianapolis, G. W. Berkheimer Company, Inc., Evansville, Budlock Refrigeration Supply Company, South Bend, F. H. Langsenkamp Company • **IOWA:** Des Moines, Heating Wholesalers Company, Sioux City, Dennis Supply Company • **MARYLAND:** Baltimore, R. E. Michel Company • **MASSACHUSETTS:** Malden, E. L. Kimball Company, Springfield, Bell Pump Service Company, Fall River, Automatic Heating Supply Company • **MICHIGAN:** Detroit, Hydraulic & Pump Repair Company, Detroit, Krieg Brothers, Detroit, Wholesale Oil & Gas Supply Company, Lansing, Miller Product Company • **MINNESOTA:** Duluth, Refrigeration Wholesalers, Inc., Minneapolis, A. C. E. Corporation • **MISSOURI:** Kansas City, Superior Supply Company, St. Louis, A. G. Brauer Supply Company • **NEBRASKA:** Omaha, Dennis Supply Company • **NEW JERSEY:** Hawthorne, Universal Engineering Company, South Vineland, Hepco, Inc. • **NEW YORK:** Albany, Certified Fuel Unit Service, Inc., Buffalo, Frontier Oil Refining Corporation, Buffalo, Rochester Oil Burning System, Rochester, Rochester Oil Burning System, Syracuse, Oil Burner Supply Company, Valley Stream, Sid Harvey, Inc. • **NORTH CAROLINA:** Burlington, Alley & Rader Services • **NORTH DAKOTA:** Fargo, Refrigeration Supply Company, Inc. • **OHIO:** Cleveland, Ohio Pump Service Company, Inc., Toledo, Home Gas & Electric Service, Cincinnati, F. E. Winstel Company, Dist. • **OREGON:** Portland, Northcraft Pump & Controls Company • **PENNSYLVANIA:** Erie, Carroll Company, Philadelphia, Certified Fuel Unit Service • **RHODE ISLAND:** Providence, Rhode Island Fuel Pump Service • **TENNESSEE:** Nashville, J. B. Thomas Company, Inc. • **VIRGINIA:** Norfolk, Sid Harvey of Virginia, Inc., Richmond, R. E. Michel Company, Richmond, Refrigeration Supply Company, Roanoke, Southern Refrigeration Corporation • **WASHINGTON:** Seattle, Therm Gas Generator Co., Inc., Spokane, Spokane Washer Company, Tacoma, Gensco, Inc., Yakima, Yakima Heating Supply Company • **WISCONSIN:** Milwaukee, Refrigeration Parts Company, Inc. • **CANADA:** Vancouver, Pacific Controls Co., Montreal, Michaud & Fils Limited, Winnipeg, United Refrigerator Parts Co., Ltd.

Bruce Epsteine, Bob Main and Len Kroes. Members of the engineering committee are John Burrows, Norman Busch, Al Galaba, and Garry Baken. W. A. Rockafield is chairman. Tom Byrd and Ben Krause are on the membership committee.

Philadelphia group Lists promotion Accomplishments

DURING RECENT WEEKS, the Greater Philadelphia Fuel Conference has published a series of bulletins discussing the oilheating promotion program sponsored by the group during the 1954-55 heating season, with case records showing the effect of the advertising campaign on the public.

In *Bulletin #117-b,* June 7, 1955 seven cases were cited, and among these the following three were of more than usual interest:

"*Case Record #8.* This case involves reports from a number of dealers, including our own Board Members, showing that conversions from gas to oil heat, on an increasing scale, are being made in recently occupied housing developments throughout the area."

Case Record #10 revealed that the group knew of five builders who had switched from 100% gas heating to 100% oil in all construction planned for the future.

Another example was Case Record #11 citing a letter from a manufacturer's representative which pointed out that recently his organization had taken an order for oilfired heating equipment for 52 homes in a development that previously had been using gas fired equipment. The representative felt that this change was due primarily to the group's advertising program, and added that four previous gas sales changed to oil before the homes had the heating equipment installed.

New York Oil Heating Assn. holds its biggest Outing

THE LARGEST OUTING from standpoint of attendance took place June 23 at the Engineers Club, Roslyn, Long Island, sponsored jointly by the New York Oil Heating Association, Fueloil & Oilheating Dealers of Nassau, Oil Heat Institute of Long Island and the Oil Heat Old Timers Club. According to Phil Schepp, secretary of NYOHA, 485 were in attendance at the all day affair that included a golf tournament and field events. Art Bierman, Liquidepth Indicators, was chairman of a 20-man arrangements committee.

The complete day's program included a lunch and dinner, at which prizes were distributed.

Also during the dinner, Fred Heaney, Skaggs-Walsh and president of NYOHA, outlined the purpose of the co-operative advertising program in which the group is participating and stressed the urgency for pledges and contributions to keep the project active. Al Baerenklau, Baereuklau & Co., also spoke on the need for active participation by the greatest number possible. As a direct result of the two appeals approximately $3,200 was pledged by the companies present.

THE WORLD'S FINEST HEATING

Today's heating prospects are interested in the performance and dependability of their investment. They are interested in heating equipment which offers them the greatest value backed by a guarantee which offers everything that it should. Wondaire heating is becoming a "buy word" for more and more wholesalers and dealers as competition begins to weed out the narrow margin and low performance operators. This is one of the major reasons why more and more heating experts are recognizing and requesting Wondaire Oil or Gas fired heat. Wondaire heating is quality built at prices to please everyone.

COX MANUFACTURING CO.
Ridgeville, Indiana

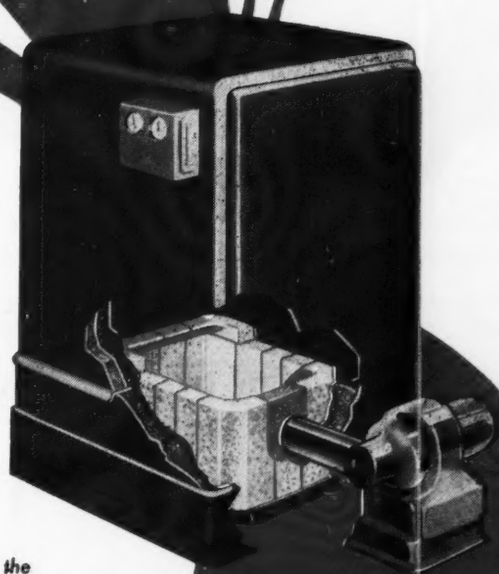
MAIL THIS COUPON NOW!
SEND ME COMPLETE INFORMATION ON—
☐ Horizontal ☐ Model R ☐ Model OCF
☐ Model H ☐ Model CFO
Name .....
Address .....
City & State .....

SAVE ON INSTALLATION TIME

WITH **A. P. GREEN**

Streamlined

COMBUSTION CHAMBERS



Easy to install . . . fewer pieces

Save labor costs. Fewer pieces permit installation in a minimum of time.

Designed for top efficiency

Design conforms to the natural shape of the flame and allows free gas movement .. quiet operation.

Adaptable to most sizes

By the addition or removal of a few tile, the STREAMLINED Combustion Chamber can be adapted to practically all types and sizes of domestic boilers and furnaces. Made from high quality Missouri Fire Clays. Will last for years under most severe service conditions. Chambers installed 15 years ago are continuing to give satisfactory service without repairs.

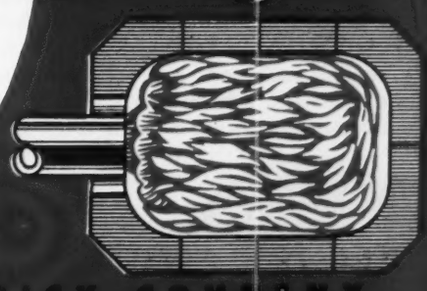
Individually packaged

Each Chamber is packaged in a specially designed carton to give full protection in shipping and storing.

LOOK FOR *Your A. P Green Distributor in the classified section of the telephone directory or write direct for more information on:*

COMBUSTION CHAMBERS • OIL BURNER BAFFLE BRICK • INSULATIONS

HIGH TEMPERATURE MORTARS • CASTABLE REFRACTORIES



A. P. Green
REFRACTORY PRODUCTS

A. P. GREEN FIRE BRICK COMPANY

Mexico, Missouri, U. S. A.

PLANTS: Mexico, Mo. • Woodbridge, N. J. • Sulphur Springs, Texas

IN CANADA:

A. P. GREEN FIRE BRICK COMPANY, LTD.

Toronto 15, Ontario

Distributors and Warehouse Stocks in the Principal Cities of the World

Calendar of coming Events

AUGUST, 1955

9–11—I-B-R Short Course, University of New Hampshire, Durham, N. H.
10—Richmond Oil Heat Assn., William Byrd Hotel, Richmond, Va.
15—American Petroleum Institute, OIIC Steering Committee Meeting, Biltmore Hotel, New York.
15—Rockford Fuel Oil Dealers Assn., Lafayette Hotel, Rockford, Ill.
15–16—North Dakota Oil & Gas Assn. (Annual Meeting), Bismarck, N. D.
24—Oil Heat Assn. of Gary, Ind., Hotel Gary, Gary, Indiana.
25—Wisconsin Oil Heat Assn., Wisconsin Hotel, Milwaukee, Wisc.

SEPTEMBER, 1955

2– 3—Assn. of Desk & Derrick Clubs of North America, (9th annual convention), Hotel Commodore, New York, N. Y.
5– 7—North Carolina Oil Jobbers Assn., Fall Meeting, Mayview Manor, Blowing Rock, N. C.
8– 9—Michigan Petroleum Assn., (annual meeting), Pantlind Hotel, Grand Rapids, Mich.
8– 9—American Petroleum Institute, OIIC Meeting, Conrad Hilton Hotel, Chicago, Ill.
12—Delaware Valley Oil Heat Assn., Buck Hotel, Feasterville, Pa.
13—South Jersey Fuel Merchants Assn., Silver Lake Inn, Clementon, N. J.
14–16—National Petroleum Association (53rd Annual Meeting), Traymore, Hotel, Atlantic City, N. J.
15—Atlantic Heating & Cooling Assn., Penn-Atlantic Hotel, Atlantic City, N. J.
15–16—Florida Petroleum Marketers Assn., Daytona Plaza, Daytona Beach.
17–21—American Institute of Wholesale Plumbing and Heating Supply Assns., (annual convention), Waldorf-Astoria, New York.
19—Fuel Oil Dealers of B. C., Hotel Georgia, Vancouver, B. C.
20—OHI of Greater Washington, D. C., Dupont Plaza Hotel, Washington, D. C.
20–21—American Petroleum Institute, (executive committee meeting), Greenbrier Hotel, White Sulpher Springs, W. Va.
22–23—Kentucky Petroleum Marketers Assn., Phoenix Hotel, Lexington, Ky.
22–23—Mid-Continent Oil & Gas Assn. (La.-Ark. Division annual meeting), Roosevelt Hotel, New Orleans, La.
26–27—Independent Oil Compounders Assn. (Annual Meeting), Hotel Bismark, Chicago, Ill.
27—Central Suffolk Fuel Oil Dealers Assn., Peaks Tavern, St. James, N. Y.
27–28—Ohio Petroleum Marketers Assn., Inc. (Fall Conference & Golf Tournament), Netherland Plaza & Maketewah Country Club, Cincinnati, Ohio.
29–30—Oil-Heat Institute of America, Board of Directors Meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, N. J.

OCTOBER, 1955

3– 4—Texas Mid-Continent Oil & Gas Assn., (36th annual meeting), Baker Hotel, Dallas, Tex.
5– 6—San Joaquin Valley Oil Industry Safety Conference, Bakersfield Hotel, Bakersfield, Calif.
9–15—Oil Progress Week.
12–13—Indiana Independent Oil Men's Assn., (annual meeting), Hotel Severin, Indianapolis, Ind.
12–13—South Dakota Independent Oil Men's Assn., Merchants Hotel, Mitchell, S. D.
16–20—Canadian Institute of Plumbing and Heating, (annual meeting), The Seigniory Club, Montebello, P. Q.
18–19—Nebraska Petroleum Marketing Assn., (annual meeting), Paxton Hotel, Omaha, Neb.
19–21—Petroleum Marketers of Texas, (annual meeting), Adolphus Hotel, Dallas, Tex.
20—West Virginia Petroleum Assn., annual meeting, Daniel Boone Hotel, Charleston, W. Va.
20—Plumbing and Heating Industries Bureau, (annual meeting), Palmer House, Chicago, Ill.
23–25—Pennsylvania Petroleum Assn., (annual meeting), Pocono Manor Inn, Pocono Manor, Pa.
23–25—National Assn. of Oil Equipment Jobbers, (5th annual meeting), Hotel President, Kansas City, Mo.
26–28—Refrigeration and Air Conditioning Contractors Assn., Atlantic City, N. J.
27—Virginia Petroleum Jobbers Assn., Roanoke Hotel, Roanoke, Va.

SO MUCH VALUE at SO LITTLE COST!

THE "COSMOPOLITAN"

A completely packaged* 1955
FUEL OIL TRUCK

Prices range from

$4,078 UP TO $11,890

1000 gallon 1½ ton DODGE — 3300 gallon 4 ton DODGE

The base prices include 2 compartments, full skirting, top shrouding, electric or "Fluid Drive" reel, 125 feet of 1¼" hose. Rear or side installed equipment and variations in basic specifications available in all sizes on different make chassis. Other tank sizes and prices on request. Consideration given to all state and local requirements.

TRADES ACCEPTED and TERMS ARRANGED

*Includes chassis, tank, pumping and metering equipment

All prices above include Fed. Tax. Tank prices on other make chassis and trailer prices with. specifications on request.

Send for FREE CATALOG FON

Decker Brothers

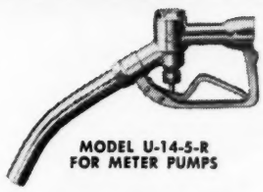
300 LINCOLN AVE. HAWTHORNE, N. J.

HAwthorne 7-2100 - 01 - 02

Specify Milvaco valves . . .

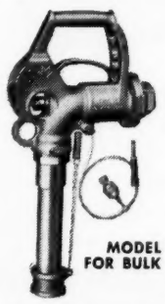
one source for all service

HOSE NOZZLE VALVES



MODEL U-14-5-R
FOR METER PUMPS

Rugged, die cast body. Rigid tube. Non-slip positive seating for accurate metering. Reversible Permadisc design eliminates disc distortion. Non-chattering even at full flow



MODEL P-2010
FOR BULK DELIVERY

Milvaloy nozzle body. Full capacity flow. Dual poppets and two-stage fulcrum lever. For gasoline or fuel oil. 100-mesh strainer, dust cap and ground cable.

MODEL P-2040
FOR FARM TANKS

Bronze body and tube. Specially designed for full gravity flow on overhead tanks. Positive closure. Permanent-type packing. Long-wearing disc. Adaptable to 15-lb. pressure.

MODEL P-2760 FOR
UNDERWING FUELING

Approved and used by major airlines. Ends over-wing fueling hazards. 100-mesh strainer removable for cleaning without detaching nozzle.

GATE VALVES

MODEL P-2690
SCREWED TYPE

Bronze by-pass pressure-relief valve. Relieves excess back-pressure around disc to inlet side.

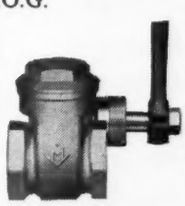
MODEL P-2654
FLANGED TYPE

Milvaloy. Rising stem. Double disc design ends seating troubles. Bolted bonnet. Square or round flanges.

MODEL P-2877
VICTAULIC TYPE

Bronze. Rising stem. Bolted bonnet. Double disc for positive closure, longer seat life. 150 lb. W.O.G.

MODEL
P-901-U
LEVER
THROTTLE
TYPE

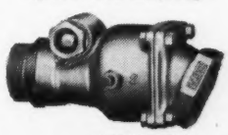


Bronze. Quick opening, self closing type. Double disc finds natural seat with less friction. Screwed ends. Underwriters approved.

TRUCK TANK FAUCETS

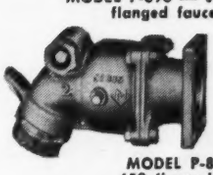
Every Milvaco truck tank faucet gives you all these advantages:

- **Straight-line flow for quick delivery**
- **Permadisc construction to eliminate disc distortion**
- **Reversible disc to save you money**
- **Easy adaptation or change from straight to angle inlet**
- **Available with safety cap and standard adapter for quick hose coupling**

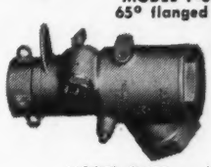


MODEL P-870 — 22½°
screw type faucet

MODEL P-890 — straight,
flanged faucet



MODEL P-895 —
65° flanged faucet



MODEL P-851 — locking
type faucet with
safety cap, less handle.

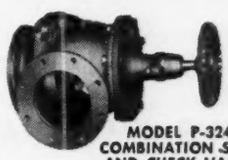
MISCELLANEOUS VALVES

MODEL P-2965-L
EMERGENCY VALVE

Bronze. Self-closing type. Positive protection in case of fire.

MODEL P-2920
LINE LOADING
VALVE

Bronze. Shockproof action. Dual poppets. Renewal discs replaceable without removing valve from line.



MODEL P-324
COMBINATION STOP
AND CHECK VALVE

Milvaloy, dual-purpose valve. Round flanges. Bolted bonnet. Composition disc.

MODEL P-2615
MANIFOLD CROSS VALVE

Bronze. Screwed ends. Screwed bonnet. Composition disc.

No matter how or where valves are used in oil handling, there's a Milvaco valve, nozzle, faucet or fitting for that particular service. Positive-action Milvaco valves give you quick control, maximum flow. And only Milvaco valves are made with weight-saving *Milvaloy*, the chemically resistant, non-sparking, modern alloy that meets ALL your exacting requirements. Specify Milvaco — *get the right valve for every job!*

Write today for catalog B155.

MILWAUKEE VALVE COMPANY

A Subsidiary of A-P Controls Corporation

2377 South Burrell Street • Milwaukee 7, Wisconsin

MILVACO

THE MARK OF PERMANENT QUALITY

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 148 to FUELOIL & OIL HEAT, *2 West 45th St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Armstrong Furnace adds Models to commercial-industrial Line

THREE OIL-FIRED, suspended "space saver" heaters in the 8801-L8 series have been added to the Armstrong Furnace line of industrial heating equipment. Rated at 225-, 275- and 350-thousand Btu/hr.

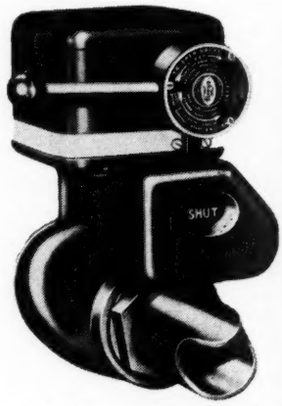
The heaters are 29" in height, 65½" long. The L8-350 is 63" deep, while the L8-225 and 275 are 44" deep. The combustion chamber and secondary heat exchanger tubes are built in a tear drop design, permitting blower air to be wiped over the entire surface of the tubes and chamber.

Made by: Armstrong Furnace Co., Columbus, O.

Circle E1 on coupon, page 148

Manual reset Valves are for use with Fireye Safeguard Systems

FIREYE SERIES 81G manual reset valves are especially designed for use with Fireye Failure Safeguard Systems for use in shutting off the flow of fuels in oilburners in case of faulty operation. The positive, leakproof closing action of these valves provides maximum protection against hazards. The manual reset mechanism prevents re-opening unless the electric holding coil is energized.



Full area port and straight-through body design offers higher capacities with lower pressure drops. Comes in 1" and 1¼" sizes for use with pre-heated 5 or 6 oil.

Also added to Fireye's line are 80B pressure controls designed for industrial use. They provide high and low

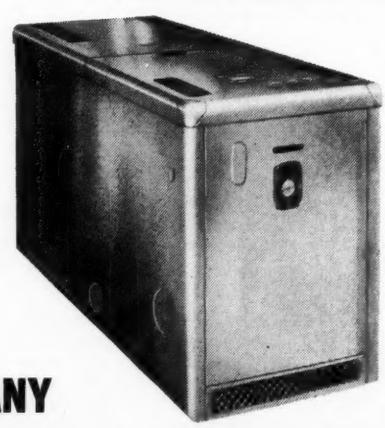
BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM

BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM

When you SELL the DYNATHERM your Customers are assured of the HEALTHIEST and MOST ECONOMICAL HEAT Known...

WET HEAT

Savings up to 40% and even more have been reported after replacement of old oil burner (regardless of make) with the Bethlehem DYNATHERM! It's as automatic as your electric refrigerator and costs little more, installed complete, than converting an old boiler. No other "Package Unit" can equal the performance of the Dynatherm. Completely assembled and tested at the plant.



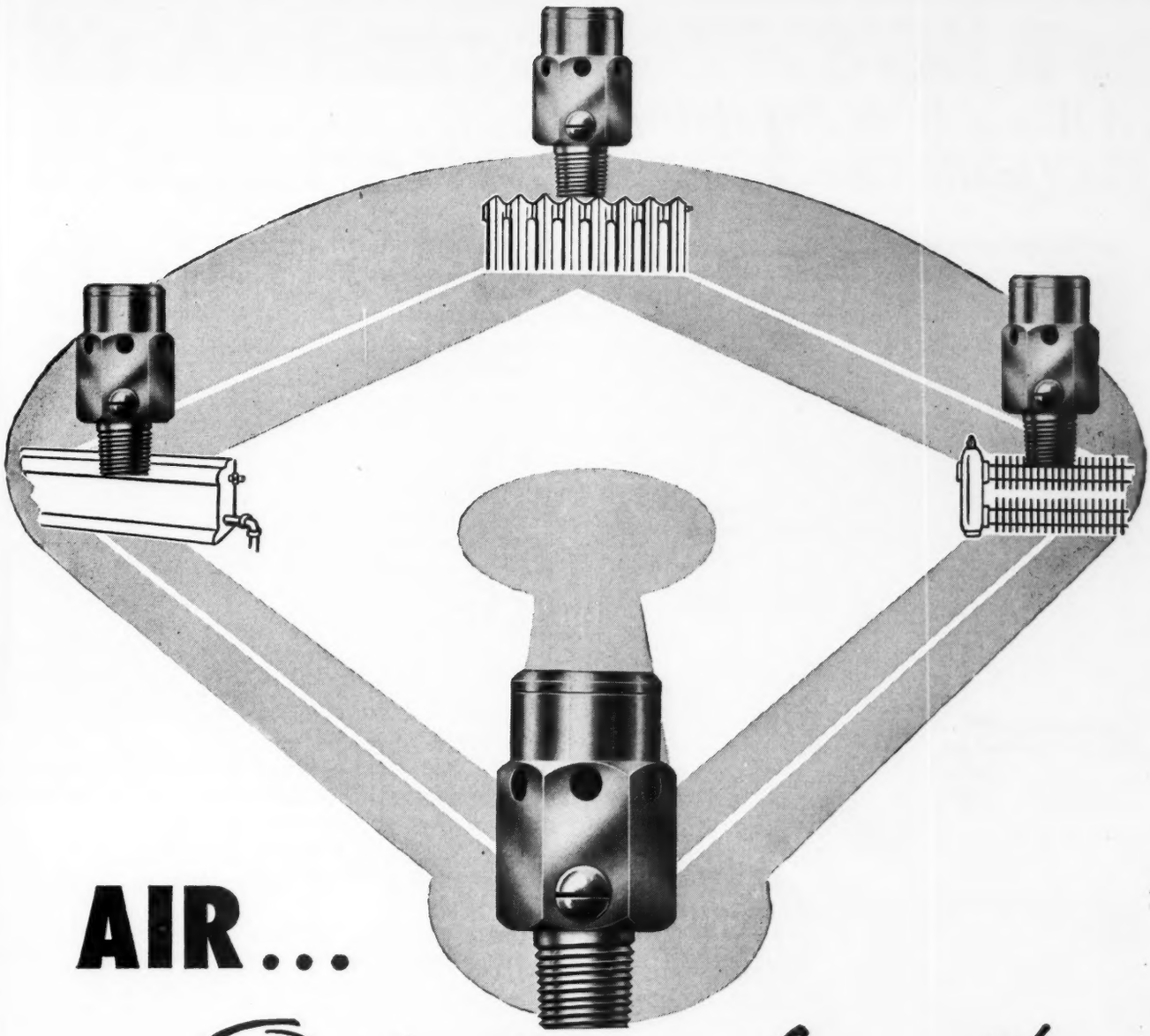
A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

BETHLEHEM FOUNDRY & MACHINE COMPANY

225 WEST SECOND STREET • BETHLEHEM, PENNSYLVANIA

BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM

BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM



AIR...

Out at every base with

TACO-VENTS

The air is *out*, you are *safe*, because Taco-Vents with the patented *porous bronze plug* assure perfect air venting action *plus* years of absolutely leakproof service. Always install Taco-Vents on every hot water baseboard, radiator or convector (high points, too). It is the easy, sure way to enjoy complete customer satisfaction and end costly call-backs.

Manufactured Under Rigid Quality Control

TACO HEATERS, Incorporated

1160 Cranston Street | Cranston 9, Rhode Island

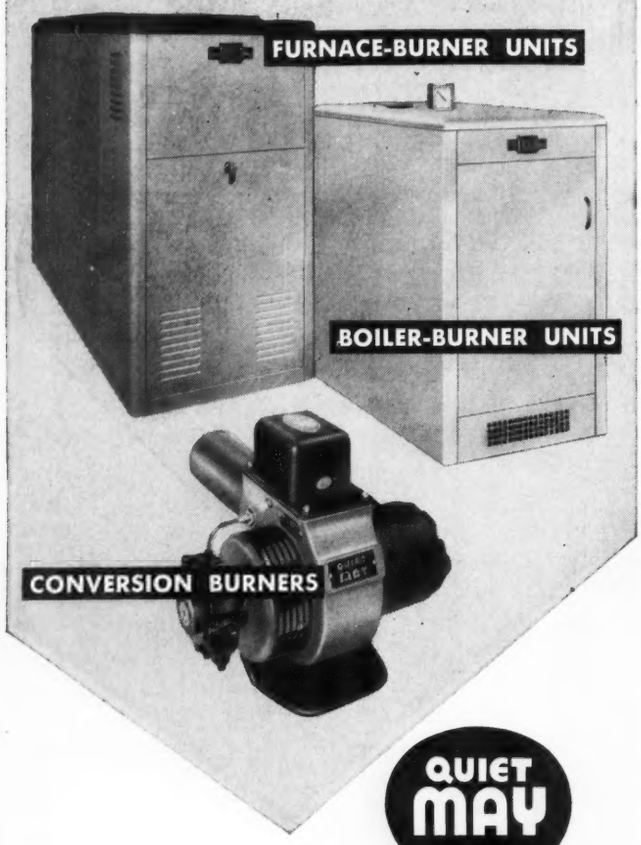
CORPORATE OFFICE
342 Madison Avenue
New York 17, New York

IN CANADA
Taco Heaters of Canada, Ltd.
4 Gilead Place, Toronto 2

Taco

fueloil & oilheat

For 31 Years . . .
A World-Wide Reputation
For Quality and Value!



QUIET MAY OIL HEATING

Since the pioneer days of the industry, Quiet May oil heating equipment has been known for unfailing dependability. Sold and installed on five continents, Quiet May has earned a solid international reputation . . . built on the most exacting standards of quality materials, engineering and workmanship. Today's Quiet May equipment is the product of progress . . . and the finest ever built!

For oil heating equipment that you can sell and install with confidence . . . at a profit . . . get the facts about the Quiet May line. Dealerships available in most states. Write today to Dept. MFO-2.

QUIET MAY DIVISION
PENN BOILER & BURNER MANUFACTURING CORP.
LANCASTER, PENNSYLVANIA

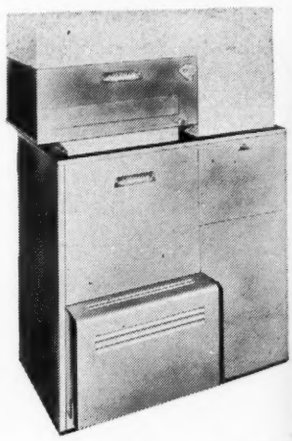
limit control for steam, air and non-corrosive liquids and gases.

Made by: Electronics Corp. of America, 720 Beacon St., Boston 15, Mass.

Circle E2 on coupon, page 148

Horizontal Coil utilized by new Mueller Airconditioner

MUELLER CLIMATROL's Type 912 airconditioner is equipped with a horizontal coil. The new coil unit is available in 2 or 3 hp sizes, and is installed in the plenum assembly above the furnace. With this space provided, the homeowner may have the coil installed anytime his budget dictates. No ductwork alterations are necessary when cooling is added.



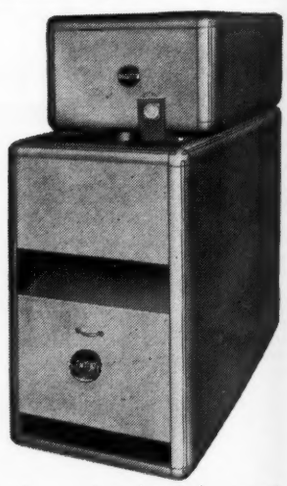
Measuring 12⅝" x 29¾" x 20¾", the coil is installed with a remote type air or water cooled condensing unit. Another feature is a built-in by-pass damper which allows the homeowner to control the excess humidity in his home. The damper can be opened or closed to by-pass more or less air around the coil.

Made by: Mueller Climatrol, Milwaukee, Wisc.

Circle E3 on coupon, page 148

Century offers remote compressor Airconditioner; enclosed Furnace

CENTURY ENGINEERING has made two additions to its line of heating and cooling equipment. A residential airconditioner is equipped with an air and water cooled remote compressor making for quieter operation. Air cooled models have a separate remote condenser as well.



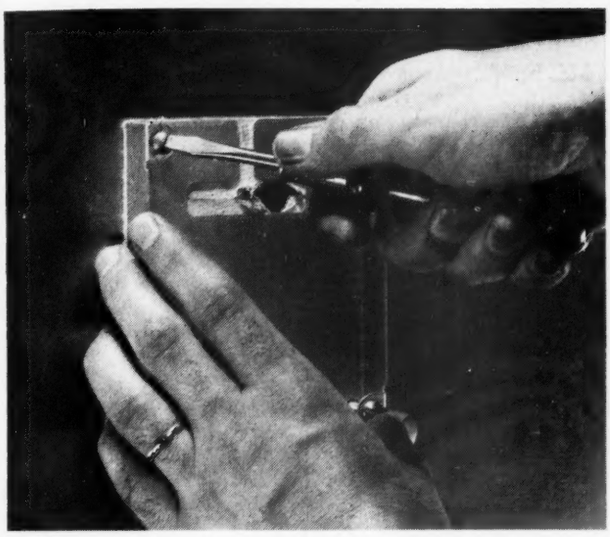
Only the cooling coil unit sits on top of the forced air furnace unit and no noise enters the system because the condenser and/or compressor units are located in another basement room or outdoors.

Century has added completely enclosed oil basement and utility models to round out its preassembled furnace line. The cabinets have round corners and are enameled inside and out. Channels and leveling screws on basement units eliminate special bases and reduce possibility of rusting. Equipped with the new Century burner unit.

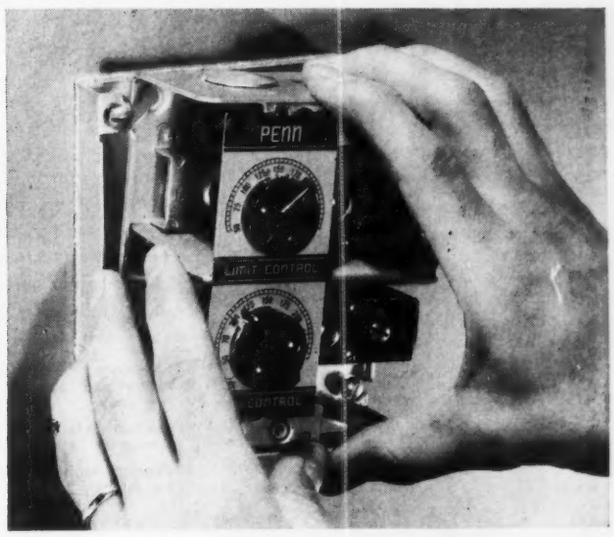
Made by: Century Engineering Corp., Cedar Rapids, Ia.

Circle E4 on coupon, page 148

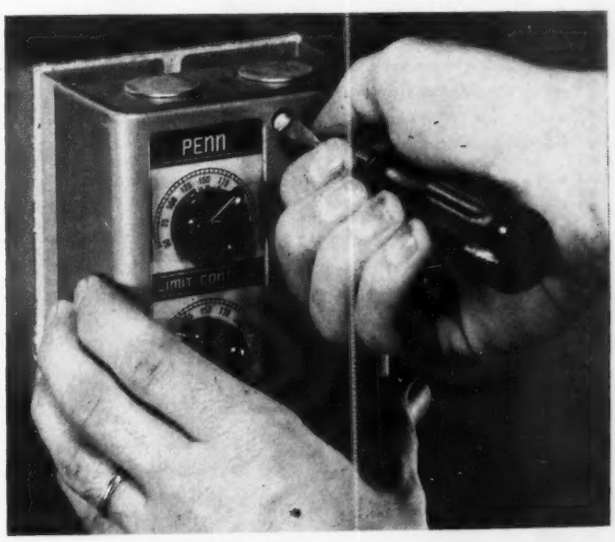
It's As Easy As "1-2-3" To Install Penn Combination Fan and Limit Control



1. Cut 1¼" power element hole. Drill 2 mounting holes, using asbestos seal as template. Start mounting screws through bracket.



2. Insert power elements and hook slots in control case under screw heads, then tighten screws.



3. Place control cover in position and secure 2 retaining screws. That's all you do . . . it's simple and fast.

Easier and faster to install . . . even in cramped quarters or in poor lighting . . . it isn't necessary to mount the Series 520 in a level or vertical position! But that's just part of the story.

Penn combination fan and limit controls are designed for low, line or millivoltage service . . . *at no extra cost.* Penn's superiority is recognized by customers, too. They know Penn controls mean healthful comfort. They know the Penn name means accurate and dependable operation. It's the kind of dependability that eliminates, for you, those costly service call-backs.

On your next heating job, specify Penn controls . . . *they cost no more!* Penn furnace controls are also available in single units . . . for fan only, or limit only. Be sure to ask your burner manufacturer or wholesaler for Penn heating controls. **Penn Controls, Inc., Goshen, Ind.**

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

3 WINNING NUMBERS
in Hot Water Heating Vents

MAID-O'-MIST AUTO-VENTS®

NUMBER 7

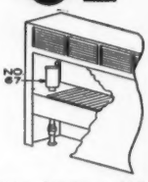
For pressures up to 75 lbs. This self-closing, float - operated valve gives positive action for such large capacity, continuous venting jobs as

- Venting trapped mains and circulating lines
- Venting hot water convector radiators
- Venting high points on mains

No air chamber required. Size 4⅜ x 2¼". Send for Catalog Sheet No. 7.

NUMBER 67

For pressures up to 30 lbs. Designed for limited space, this self-closing, float-operated valve provides positive action for such continuous venting jobs as

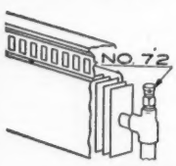


- Venting convector radiators
- Venting baseboard radiators

No air chamber required. Size 3-3/16 x 1½". Send for Catalog Sheet No. 67.

NUMBER 72

A fast venting valve of the expansion type. Its small size and responsive action make it ideally suited to such venting jobs as



- Venting convector radiators
- Venting free standing radiators
- Venting baseboard radiators

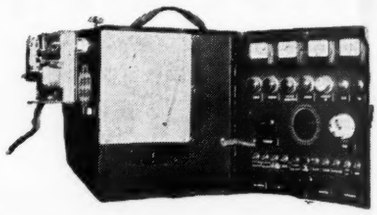
No air chamber required. Size 1¼ x ½". Send for Catalog Sheet No. 72.

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc.
HEATING SPECIALTIES

Portable control Tester for field Use is manufactured by Thermolok

PORTABLE FIELD TESTING device for controls that eliminates guesswork as to whether controls are good or bad is being manufactured by Thermolok. Tests resistance or continuity of motors. Tests current drawn in a circuit. Tests thermostats and aquastats.



Has built-in heater to test stack relay with integral clock for timing relays. Weighs 17 lbs. in metal self-carrying case. All instruments are visible in one panel when open.

Components in this tester are: 2 voltmeters; 1 ohmmeter; 1 ammeter; 7 signal indicators; built-in rheostat; clock and safety fuse.

Thermolok Mfg. Co., Inc., 541 Rogers Ave., Brooklyn 25, N. Y.

Circle E5 on coupon, page 148

Lightweight manhole Cover developed by Brown Steel

DESIGNED for the company's own truck and trailer tanks, Brown's new manhole cover is fabricated of lightweight metals, although meeting the safety requirements of the ICC and API. Due to the manhole's low height, lower rib rails for greater over turn protection are permitted.

A cam-locking feature gives tight closure, and a hinged cover swings open giving a full 10½" x 16½" opening into the compartment. Each manhole is equipped with fusible plugs and a 5-way inverted safety vent.

Made by: Brown Steel Tank Co., 2901 4th St., S. E., Minneapolis 14, Minn.

Circle E6 on coupon, page 148

Clark develops new Line of high-capacity steam Traps

MAIN FEATURE of Clark Manufacturing Co.'s new "Thriftrap" line of high capacity steam traps is "Duo-Step" leverage, a method that increases the capacity without increasing the size of the trap body. The units are of the inverted bucket type, and are of cast semi-steel construction with seats and discs of Clark-loy stainless steel.

Available for pressures to 250 psi and temperatures to 450° F., the traps may be furnished with horizontal or vertical inlet and outlet connections of ½" or ¾".

Made by: The Clark Mfg. Co., 1830 E. 38th St., Cleveland 14, Ohio.

Circle E7 on coupon, page 148

Good things happen when you "sign up" with G.E.

If politicians were home heating and cooling dealers, they'd all switch to G.E. That's because they believe in the adage "if you can't beat 'em—join 'em."

And a good idea for dealers who are tired of tilting at windmills or bucking headwinds is to jump on the G.E. "brandwagon"...and enjoy the advantages that belong to the man who hangs the G-E monogram over his shop. For example;

- *A full line of the finest home heating and cooling units made.*
- *Units designed for every house, no matter what the design, type, size, location or climate.*
- *Units that carry the famous G-E Warranty offering you and your prospects more protection mileage than any other in the business. And that includes a 5 year protection plan on the sealed-in system of the cooling unit.*

Like most G-E dealers, you'll find that the good things in life come a lot easier and faster when you work hand-in-hand with G.E. Send the coupon below. It is just possible there is a juicy franchise still open in your territory. When you get the full story on the great G-E line and the "Franchise with a Future"...we think you'll be glad to "join us."

HOME HEATING & COOLING DEPT.

Progress Is Our Most Important Product

GENERAL ELECTRIC

*Reg. Trade Mark of General Electric Co.

GENERAL ELECTRIC CO.
HOME HEATING & COOLING DEPT. FO-85
BLOOMFIELD, N. J.

Yes, I want the facts on why "signing up" with G.E. will step up my sales and progress.

NAME_____

TYPE OF BUSINESS_____

ADDRESS_____

CITY_____ COUNTY_____ STATE_____

fueloil & oilheat

ROCHESTER UNIVERSAL OIL TANK GAUGES

Guarantee

No Oil Fumes or Spills

LEAKPROOF, MAGNETIC — no shaft hole in gauge head. Non-electric, permanent magnetic transmit float arm movement into dial movement.
LOW COST — complete installation —no additional servicing. No seepage or smelly oil fumes means more profits for you.
EASY TO INSTALL—merely screw in adapter, bolt on gauge. No adjustments necessary regardless of oil level.
LARGE DUAL DIAL — just turn gauge to mount at either end or center of tank.
NO DISCOLORATION — no fumes or seepage reach gauge head to discolor dial or crystal. Easy to read, permanently clear for years.
ACCURATE — sensitive pivot bearing coordinates response of rotating dial to any movement of float arm.
GUARANTEED — in material and workmanship, and in customer satisfaction.
UNDERWRITER APPROVED — safety factor far exceeds the requirements of the Underwriters. The model 3175 Gauge withstands tank pressure of 200 pounds per square inch.

OHI

Stocked by Leading Wholesalers Everywhere—or write to Rochester Manufacturing Company, Inc., 8 Rockwood Street, Rochester 10, N. Y., U.S.A.

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS
ROCHESTER DEPENDABLE ACCURACY GAUGES

Rockwood Street, Rochester 10, N. Y., U. S. A.

Olson's throttle Control races Engine when Fueloil is flowing

OLSON'S THROTTLE CONTROL for fueloil delivery trucks speeds up truck engines only when fueloil is flowing and automatically decreases speed when pumping is stopped. The control installs in a tee anywhere in the discharge line so that when oil flows through the line it moves a disc which opens the valve control. A vacuum line is connected at truck manifold to control and then to vacuum diaphragm. This, in turn, is connected to carburetor throttle rod, adjustable to desired engine speed.

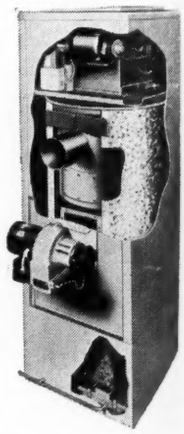
When oil flows the control valve opens, vacuum retracts pulling accelerator rod to increase speeds. When the oil stops, valve closes in control and diaphragm releases, letting engine return to idling speed.

Made by: Olson's Throttle Control, Box 87, Broadway, Raynham, Mass.

Circle E8 on coupon, page 148

Cooling Coils now are available on Airtemp Counterflow Furnaces

CHRYSLER AIRTEMP has introduced a new twin coil for use with the company's counterflow furnaces. Installed below the furnace, a matching case, same width and depth as the furnace, carries the coil. If desired, the case may be installed with the furnace and the coil added later, without ductwork modification of any kind.



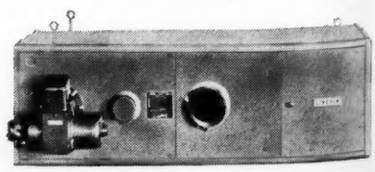
Coils are mounted in parallel in vertical position, 12 tubes to row, 3 rows each, 13 aluminum fins per inch. Suction and liquid lines connect from either side or rear. Condensate drain, at front of the case, may discharge to the right or left. The new counterflow cooling coil may be used with either an Airtemp air-cooled or water cooled condensing unit.

Made by: Airtemp Division, Chrysler Corp., 1600 Webster Street, Dayton 1, Ohio.

Circle E9 on coupon, page 148

Larger suspended Units by Lincoln can be fired from either Side

LINCOLN FURNACE has added two larger suspended units to its line. Model S-140 has a bonnet output of 140,000 Btu/hr, model S-180 a 180,000 Btu/hr output. Both models can be fired from either side and can have flue outlet on either side.



This versatility allows for any type of installation in attics or crawl spaces. They are 22" and 24" in height.

Made by: Lincoln Furnace Co., Inc., Hawthorne, N. J.

Circle E10 on coupon, page 148

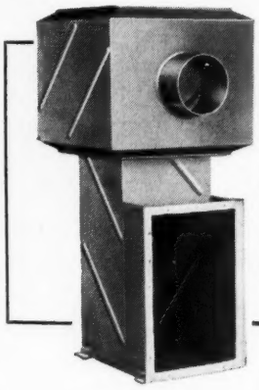
There's a Big Waiting Market for These

NiAGARA SERIES 60

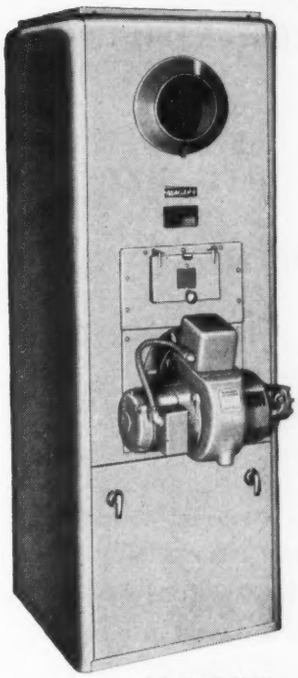
OIL-GAS *Activated Heat* CONVERTIBLE FURNACES

Designed for Easy Conversion from One Fuel to the Other

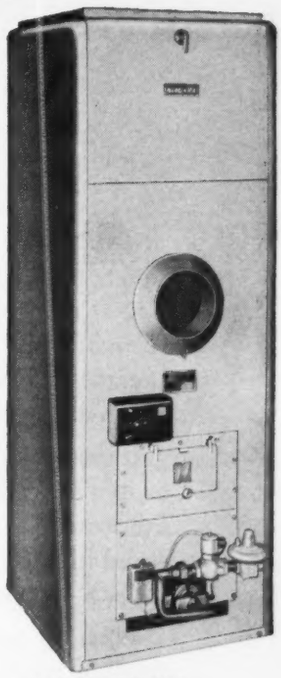
Designed for operation with either oil or gas, these Niagara "Convertibles" provide economical, modern, automatic warm-air heat for homes ANYWHERE — "Activated heat" (warm air in motion — LIVE heat!) . . . and are easily changed from oil to gas or gas to oil in the event a change in fuel becomes desirable.



Every Series 60 Convertible furnace is equipped with the exclusive Niagara - made rectangular heat exchanger of steel, making possible exceptionally compact units.



Model 60-75 VAC
OIL



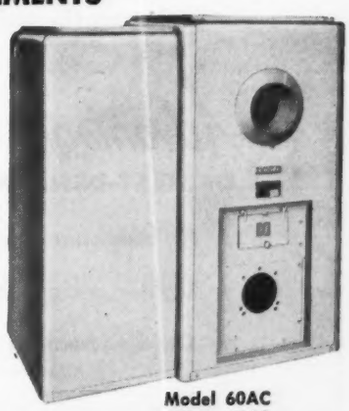
Model 60-75DFAC
GAS

FOR HOMES EITHER WITH OR WITHOUT BASEMENTS

• The complete Niagara lines include gas, oil and coal furnaces for all types of installations, and Niagara Cooling Units designed to use the blower, filter and ducts of forced air heating systems. Write for detailed information.

Model 60-70G
OIL

Series 60 Convertible furnaces are available to meet any type of installation . . . "high-boy" down-flow and conventional up-flow, both generally located in utility rooms, and gravity and conventional forced-air types for basement installation.

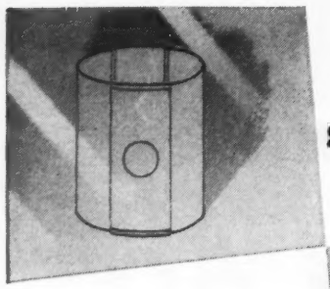


Model 60AC
OIL or GAS

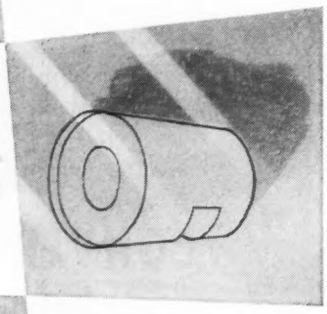
NIAGARA FURNACE DIVISION THE FOREST CITY FOUNDRIES COMPANY
2500 WEST 27th STREET • CLEVELAND 13, OHIO

Gas • Oil • Coal Furnaces • Summer Cooling Units

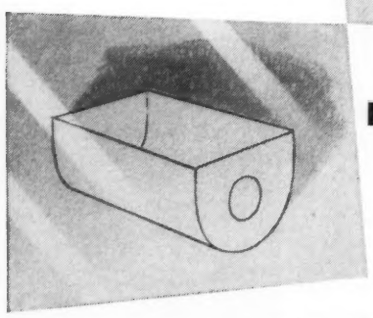
NiAGARA is the word for MAXIMUM HEAT at MINIMUM COST



SAVE TIME—



CUT COSTS



with
HEAT-RESISTING
STEELS

SHEARED
TO SIZE

for your COMBUSTION CHAMBERS

In more ways than one, it pays to specify Ingersoll heat-resisting stainless steel for your oil burner combustion chambers.

Ingersoll heat-resisting stainless has exceptional forming qualities—so it's easy to fabricate. Its analysis is correct—to withstand high temperatures. It's made by specialists—so you know it's made right.

Whether you use these steels in large or small quantities, Ingersoll facilities offer exceptional service by custom shearing to your own specified combustion chamber blanks, or multiples thereof.

Advantages
OF HEAT-RESISTING STEELS

★ *No breakage in shipment or handling*

★ *Lighter weight lowers freight costs*

★ *Quicker heating—greater efficiency*

Write, wire or phone for details

ENGINEERING B-W PRODUCTION

Ingersoll
STEEL DIVISION
Borg-Warner Corporation
310 S. Michigan Ave., Chicago 4, Illinois
Plant: New Castle, Indiana

Detroit's "Duo-Classic" is single switch Thermostat

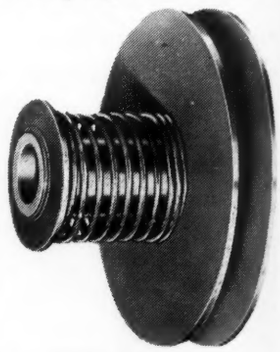
CONTROL OF summer airconditioning and winter heating is obtained with Detroit Control's "Duo-Classic" through the use of a single switch. The Duo-Classic controls all functions — heating, cooling, and air circulation. Its dial features large Gothic numerals and graduations, and the thermostat, when used with the Detroit Universal Control panel, provides less expensive installation and simplified operation.

Made by: Detroit Controls Corp., Detroit, Mich.

Circle E11 on coupon, page 148

Lovejoy develops new Pulley of non-lubricated Type

A VARIABLE SPEED PULLEY of the non-lubricated type developed by the Lovejoy Flexible Coupling Co., is rated at ¾ hp. Featuring simplicity of design, the pulley utilizes oil impregnated bronze bearings.



Using an "A" section belt, the new pulley delivers a speed ratio of 2¾ to 1, has a maximum bore of ⅞" with keyway, and the shaft bore runs through the entire length of the pulley, thus allowing reverse mounting when necessary on special installations.

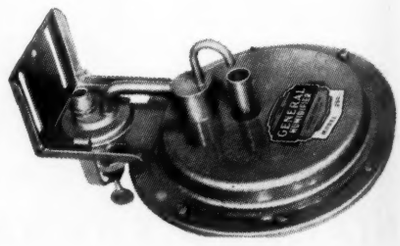
Compact, the entire unit measures 4-13/16" overall length and 6" in diameter, weighs 6½ lbs.

Made by: Lovejoy Flexible Coupling Co., 4812 W. Lake St., Chicago 44, Ill.

Circle E12 on coupon, page 148

New General Humidifier eliminates Plates, Floats and needle Valves

GENERAL FILTER'S new Model 250 humidifier for warm air furnaces features a patented Hydro-Flow regulator which filters, measures, and replenishes the water level automatically, without evaporating plates, overflow lines, floats or needle valves. Containing a rubber diaphragm valve, the regulator feeds cold, filtered water to the evaporating pan mounted directly on top of the furnace heat exchanger.



ALL-NEW COMBUSTIONEER FURNACE LINE IS LOADED WITH SELLING FEATURES

COUNTERFLOW PRINCIPLE

Note that the gases of combustion and the air from the blower travel in opposite directions—*or counter-flow*. Every bit of heat is extracted from each particle of fuel . . . and no internal baffles are needed to get the highest transfer efficiencies.

1 **Designed for both high and low pressure Combustioneer oil burners. Alternate kits for gas or oil firing.**

2 **Extra heavy 10 and 12 gauge, pressure tested, corrugated heat exchangers for more surfaces in less area.**

3 **Sealed base channel mounted, up off floor.**

4 **Easily removed refractory combustion chamber.**

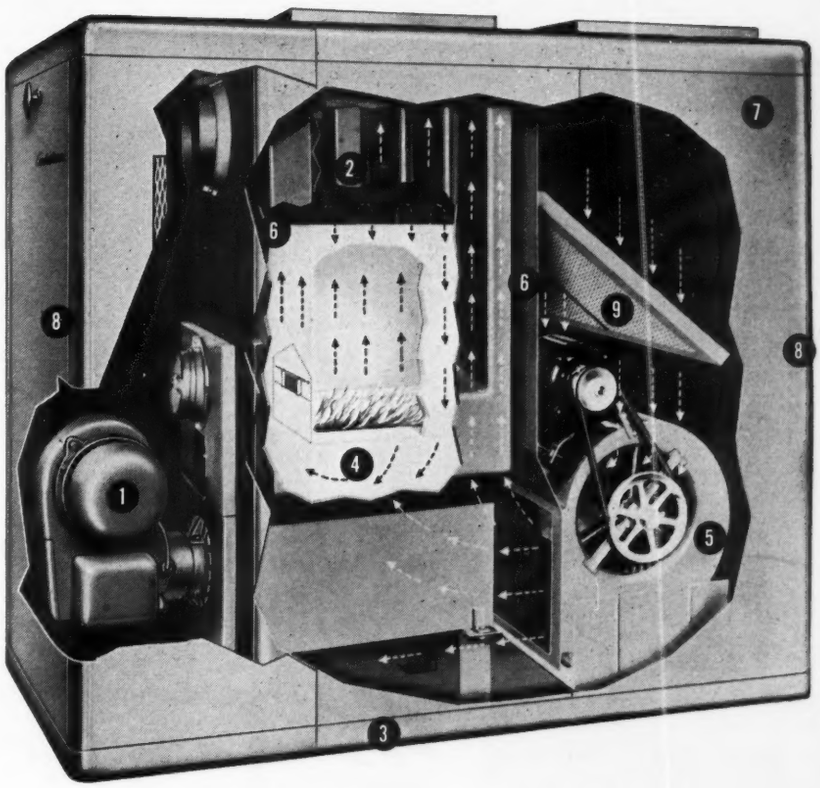
5 **Heavy duty, rubber-mounted blower assembly equipped with double-ended fan shaft in self-aligning bearings.**

6 **Extra radiating surfaces.**

7 **Baked hammerloid enamel finish on heavy 20 gauge casing of sturdy construction.**

8 **Interchangeable, large access doors permit front or rear stack outlet.**

9 **Full size filters.**



Painted inside and out. Thoroughly provided with knock-outs. Shipped assembled or knocked down.

- **Complete line—oil, gas, stoker or hand-fired coal**
- **64,000 to 1,250,000 BTU's**
- **Easier to sell, install and service**
- **Lo-Boy, Hi-Boy, Reverse Flow, Suspended**
- **Domestic models easily converted to gas or oil**

TEAM UP WITH THE WINNER

Mail the coupon today for the whole Combustioneer Story

Combustioneer

COMBUSTIONEER DIVISION
The Steel Products Engineering Company
1249 West Columbia Street, Springfield, Ohio

LOW AND HIGH PRESSURE OIL BURNERS • GAS BURNERS
OIL, GAS, COAL FURNACES • STOKERS • HUMIDIFIERS

COMBUSTIONEER DIVISION
The Steel Products Engineering Company
1249 West Columbia Street, Springfield, Ohio

SEND ME THE WHOLE STORY ON THE COMPLETE LINE OF COMBUSTIONEER HEATING EQUIPMENT.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

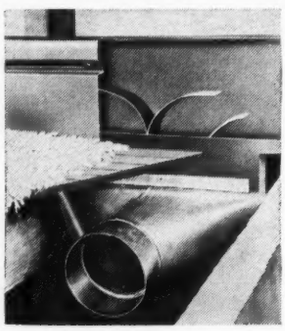
Utilizing a hydrant and standpipe arrangement, water dripping from the hydrant into the standpipe indicates the actual rate of evaporation in the pan and the rate of humidification. As water is evaporated from the pan, the regulator responds to maintain the constant level. Mounted with three screws, all feed water is filtered before entering the regulator.

Made by: General Filters, Inc., Novi, Mich.

Circle E13 on coupon, page 148

Perim-A-Base, radiant Baseboard, is introduced by Berger Furnace

A BASEBOARD warm air heating system, Perim-A-Base, has been introduced by Berger Furnace. Because of its compression flow chamber the correct proportion of radiant heat is dispersed and is carried the full length of the panel.



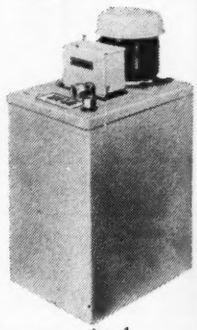
Filtered warm air flows uniformly from many outlets in baseboard blanketing outside walls and circulating to every corner of the room. Air may be humidified or dehumidified. Perim-A-Base fits neatly against floor and wall.

Made by: Berger Furnace Corp., Pittsburgh, Pa.

Circle E14 on coupon, page 148

Hy-Lo makes automatic condensate disposal Unit for Airconditioners

THE HY-LO automatic condensate disposal unit has been designed to dispose of condensate water accumulated from central airconditioning systems. The unit consists of an enameled reservoir tank, motor-pump combination and float switch mechanism.



Motor, switch and discharge fitting are located above the reservoir cover to simplify installation and servicing. Tank dimensions are 6" x 8" x 9½" deep, the motor extends 4" above. The switch serves as a junction box for wiring allowing the use of conduit where required.

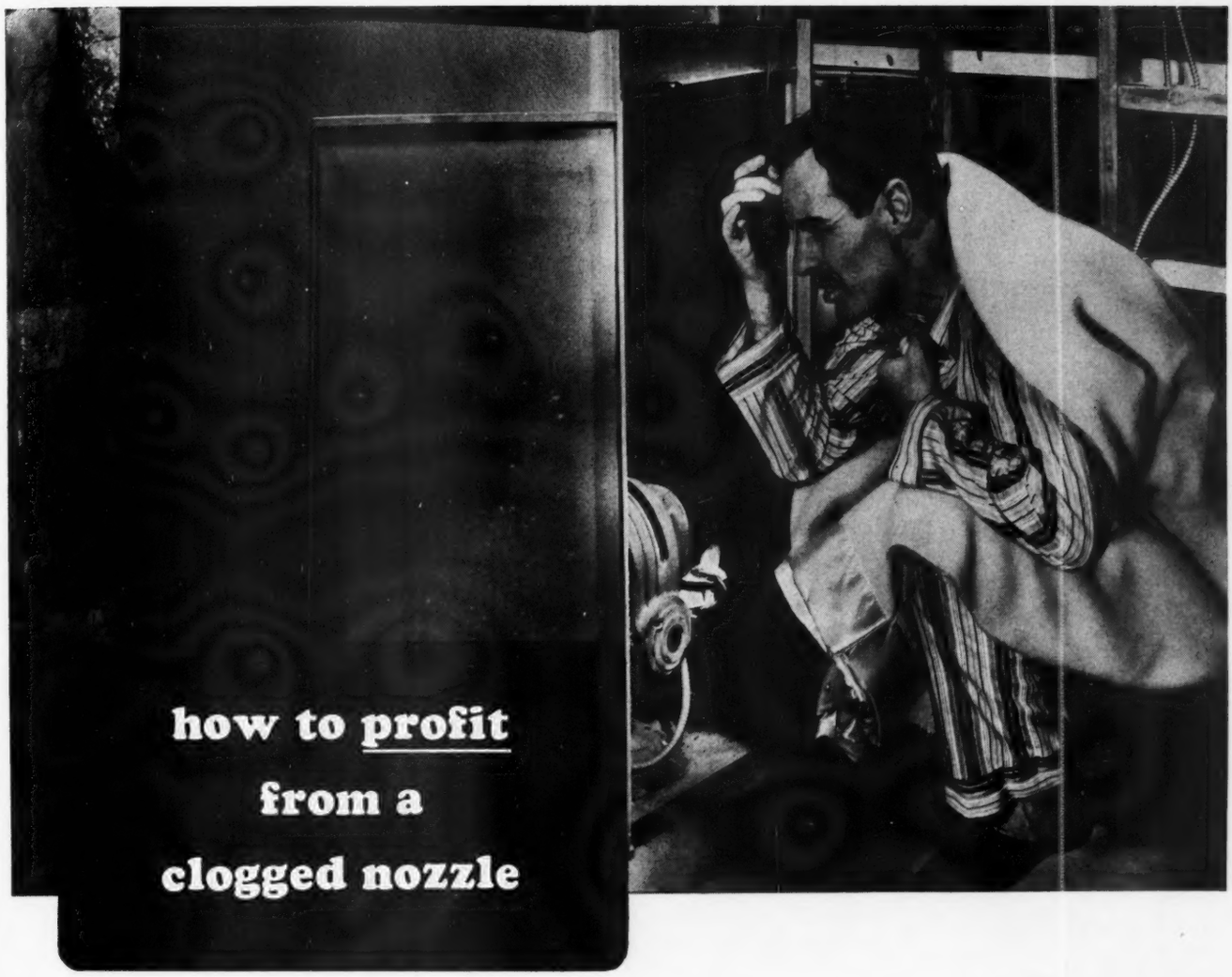
Made by: Hy-Lo Burner Co., Inc., Eddington, Pa.

Circle E15 on coupon, page 148

Perfection's Model OG-115 is designed for larger Homes

BUILT for basement installation in larger homes, Perfection's new Model OG-115 oilfired gravity furnace provides 115,000 Btu operating on No. 2 fueloil. Shipped fully-assembled as a complete ready-to-use unit, the OG-115's fuel and air connection can be made on either side. The unit is adaptable to varying installations and requirements.

JUST A FLIP OF A SWITCH
gives you hot water HEATING
or full AIR CONDITIONING
— at a price comparable or
lower than hot air heating!
IT'S AN AUBURN
"HE-CO-VECTAIR"
Sized to fit between standard studs. No carpentry needed. Ideal for old and new housing, stores, motels, and other commercial buildings.
This beautiful, quiet HE-CO-VECTAIR is the culmination of many years of engineering effort. NOW, you can be comfortable in both winter and summer—at a surprisingly low cost.
Each room is heated, cooled and controlled individually—so you only heat or cool each room as you desire. Switch hot-water heat to summer cooling at ANY time, no alterations or extra equipment necessary!
Write TODAY for full particulars.
Water Chiller and Direct Expansion Unit
AUBURN BURNER CO. AUBURN, INDIANA
COMPLETE LINE OIL AND GAS AUTOMATIC HEATING EQUIPMENT, BURNERS, FURNACES, BOILERS AND WATER HEATERS



how to profit from a clogged nozzle

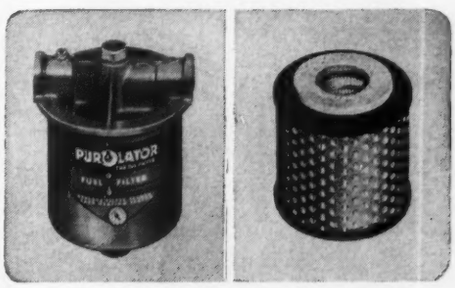
Believe it or not, there's a way you can transform this frosty situation into good will – and make a sale at the same time! Simply explain to your customer that he needs a Purolator.

If he drives a car, he's already presold. He knows what a Purolator is and what it does . . . that it's a well-built, long-lasting unit. You can point out that a Purolator PF-2002 oil burner fuel filter in his burner's feed line does a lot more than prevent nozzle clogging. It slows down wear of his fuel pump . . . keeps his burner running smoothly . . . actually lowers his fuel consumption by improving combustion. He'll be sold on Purolator, and you'll have a happier customer.

Purolators are easy to install and service

Simply connect directly into the oil supply line on the suction side of the burner pump. The pipe will carry the weight of the filter without difficulty, and you won't need to install a special mounting fixture. Once installed, the only maintenance is an annual replacement of the Purolator PF-200 filter element.

For complete details and prices of Purolator types designed for domestic oil burner installation, write Dept. OB1-812, Purolator Products, Inc., Rahway, N. J.



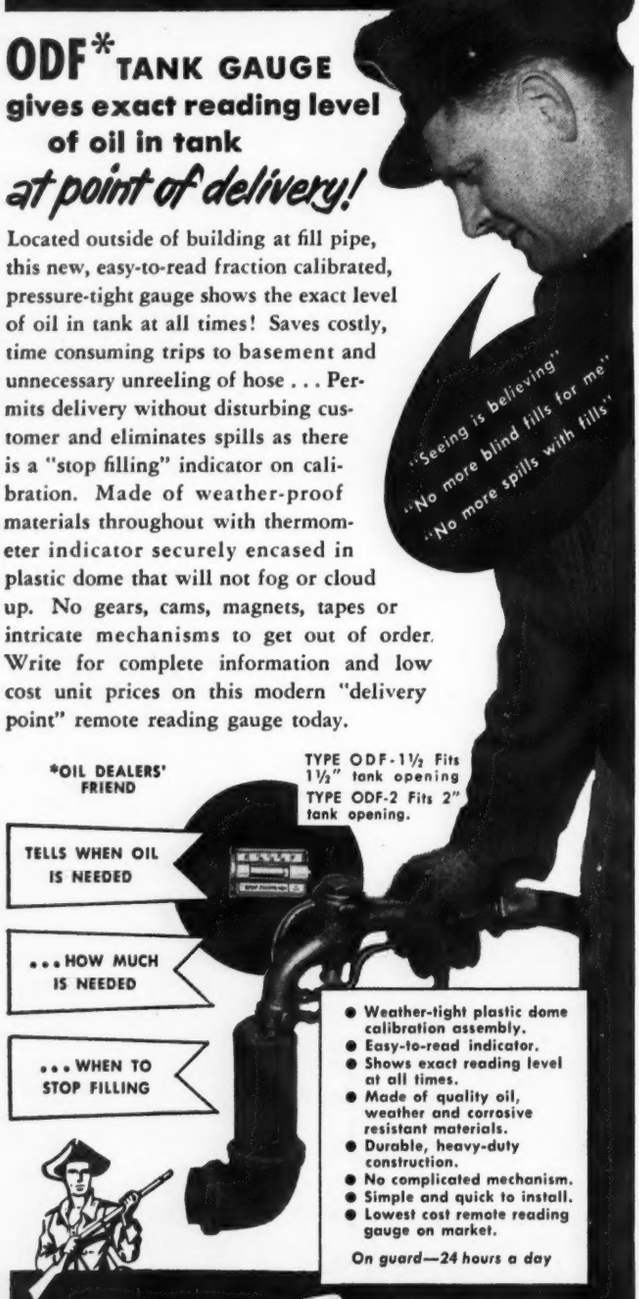
For home oil burners: PF-2002 fuel filter and PF-200 micronic refill provide ample capacity to handle recirculating fuel feed systems — refill interchangeable in most filter applications.

PUROLATOR

"FIRST IN THE FIELD OF FILTERING"

ODF* TANK GAUGE
gives exact reading level of oil in tank
at point of delivery!

Located outside of building at fill pipe, this new, easy-to-read fraction calibrated, pressure-tight gauge shows the exact level of oil in tank at all times! Saves costly, time consuming trips to basement and unnecessary unreeling of hose . . . Permits delivery without disturbing customer and eliminates spills as there is a "stop filling" indicator on calibration. Made of weather-proof materials throughout with thermometer indicator securely encased in plastic dome that will not fog or cloud up. No gears, cams, magnets, tapes or intricate mechanisms to get out of order. Write for complete information and low cost unit prices on this modern "delivery point" remote reading gauge today.


"Seeing is believing"
"No more blind fills for me"
"No more spills with fills"
*OIL DEALERS' FRIEND
TYPE ODF-1½ Fits 1½" tank opening
TYPE ODF-2 Fits 2" tank opening.
TELLS WHEN OIL IS NEEDED
. . . HOW MUCH IS NEEDED
. . . WHEN TO STOP FILLING
● Weather-tight plastic dome calibration assembly.
● Easy-to-read indicator.
● Shows exact reading level at all times.
● Made of quality oil, weather and corrosive resistant materials.
● Durable, heavy-duty construction.
● No complicated mechanism.
● Simple and quick to install.
● Lowest cost remote reading gauge on market.
On guard—24 hours a day

KRUEGER *Sentry* GAUGES
GREEN BAY · WISCONSIN

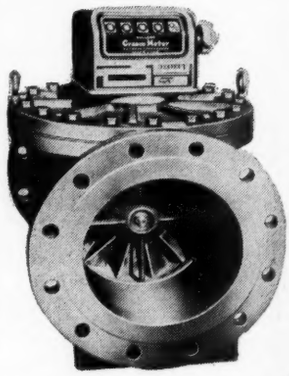
A special "free-floating" feature aids in quieter operation. Backed with a 10-year written guarantee on the radiator and combustion chamber, Perfection's new furnace is completely automatic and has a casing, made of heavy gauge steel, insulated with heat-reflecting aluminum foil and spun glass liners.

Made by: Perfection Industries, Inc., 7609 Platt Ave., Cleveland, Ohio.

Circle E16 on coupon, page 148

Granberg Corp. adds high capacity Duo-Rotor Meter to present Line

SIX NEW MODELS with capacity ratings ranging from 3,000 up to 22,000 gpm have been added to the Granco meter line. The Duo-Rotor meter consists of two counter rotating dynamically-balanced rotors. The flow through these rotors is equalized so that the velocity at the center of the rotor and outside is the same.



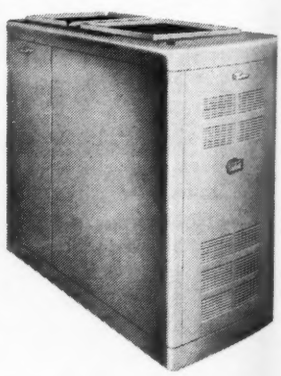
Oil is deflected from the first to the second rotor, entering the liquid in the second rotor at a 90° angle to the face of the blades.

Made by: Granberg Corp., 1308—67th St., Oakland 8, Calif.

Circle E17 on coupon, page 148

Toridheet announces new Models in ORA wall flame oil Furnaces

NEW MODELS of Toridheet ORA series of winter airconditioning furnaces have been announced. The design of the new units includes a round-cornered cabinet featuring a new louver design in the removable front panel of a vestibule enclosing all burner controls as well as the inspection door on the front of the combustion shell.



New modifications of the heat exchanger and radiator are aimed at providing greater efficiency, and fuel shut-off between the constant level valve and the burner is accomplished by a solenoid valve in the oil line. Control of the oil flow to the burner is handled by a constant level valve mounted inside the vestibule.

Four sizes of the new furnaces will be supplied in bonnet ratings of 85,000; 105,000; 130,000 and 155,000. The smallest unit, ORA-85, is factory assembled, larger sizes are shipped unassembled.

Made by: Toridheet Division, Cleveland Steel Products Corp., 16025 Brookpark Rd., Cleveland 11, Ohio.

Circle E18 on coupon, page 148

Wm. Steinen's new nozzle Cap identifies spray Patterns

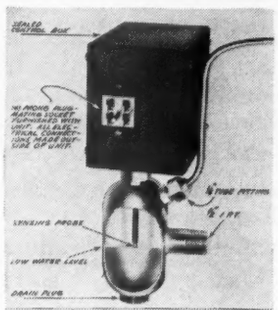
A NEW NOZZLE CAP simplifies identification of oilburner nozzles. The innovation consists of colored caps. For solid cone spray nozzles, a blue cap with white markings will be employed on the plastic container. For hollow cone spray nozzles, a red cap with white markings will be utilized.

Made by: Wm. Steinen Mfg. Co., 43 Bruen St., Newark, N. J.

Circle E19 on coupon, page 148

Techniflex floatless level Control for domestic and commercial Systems

TECHNIFLEX has announced a floatless type level control, an adaptation of probe type controls for industrial equipment, designed for domestic and medium size commercial installations. Operating on a power requirement of 110 v.a.c., a transformer in the sealed control box reduces signal voltages to eliminate electrical hazard. Electrical hookup is accomplished with a 4-prong plug and socket arrangement.



How Multiple Purpose Low Water Cut-off, Alarm and Control System

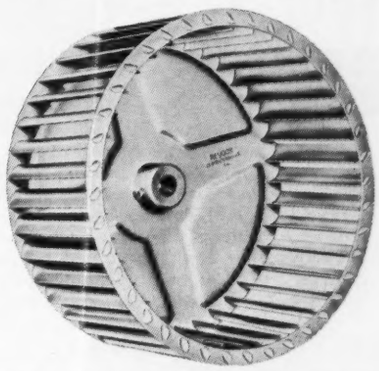
Vessel containing the probe is marked to indicate low water level. When the water level falls below the probe tip, control and/or alarm action is instituted. Designed for boiler pump control, cut-off and alarm the device is constructed to "fail-safe."

Made by: Techniflex Corp., Port Jervis, N. Y.

Circle E20 on coupon, page 148

Revcor makes blower Wheels at new Factory in Illinois

AT THE NEW REVCOR FACTORY in Carpentersville, Ill., Blastaire blower wheels are now in production. Designed for use with oilburners, furnaces and airconditioners the blowers have forward curved blades and are available in 18 diameters in single and double inlet types.



Made of either steel or aluminum the wheels are particularly effective in applications where space dimensions require more performance from smaller wheels.

Made by: Revcor Co., Carpentersville, Ill.

Circle E21 on coupon, page 148

You'll Like ..... THE QUICK PICK-UP IN .... Profits in the Small Home Market with ...

SHEPHARD PERCOLATING ACTION BOILERS

Yes, PROFITS are intensely interesting these days, particularly when they come from prestige building merchandise . . . through a market that is growing daily. Yes, SHEPHARD Domestic Boilers and Hot Water Heaters (incorporating the Percolating Action) have become a standard in profits, efficiency and economy. This well known action prevents lime, scale and sediment from collecting . . . keeps boiler continuously clean . . . thus preserving the life and efficiency of the heating unit. Sturdily constructed for long-lasting dependability. Completely arc welded from boiler plate and tubes. Thoroughly galvanized inside and out. Furnished with any desired color (blue is standard) with chromium trim.

Boilers have 2" wool insulation. WRITE FOR FURTHER DETAILS.

Shephard HEATER CO. INC.

951 SYCAMORE AVE., TERRE HAUTE, IND.

Only WALKER Has It!

Automatic Draft Control with

Full Protection at All Vital Points!

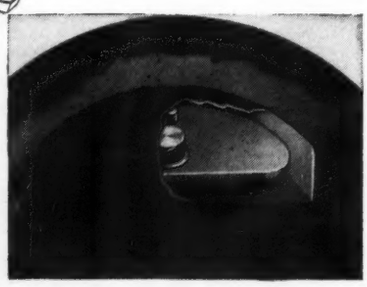
Pat. Pending

Royal Purple Model

Think of it! A draft control that's absolutely impregnable to soot, carbon, corrosion and dust . . . one that will give years of accurate, trouble-free service in spite of the most adverse operating conditions! The new Walker ROYAL PURPLE model is the first—and only—draft control with positive, all-point protection. These revolutionary improvements can't be copied or duplicated — they're exclusively Walker because of pending patents.

The Royal Purple — Hit of the Philadelphia Show

THE INSIDE STORY



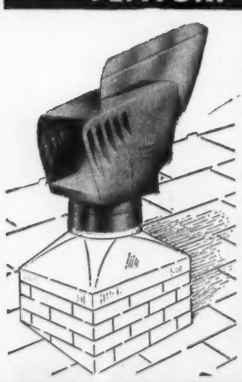
The weight adjustment assembly on the ROYAL PURPLE model is sealed in by a protective housing which keeps mechanism absolutely free from dirt deposits. Unretouched photo at right shows back of vane and housing after more than a year's service. Cutaway shows spotless condition of sealed-in weight adjustment assembly. Clean, corrosion-free operating parts assure ease of adjustment at any time.

This front view of an actual installation shows location of pivot pins which control vane movement. Notice how they are located on front face of damper and set back, away from edge. Box-type hinges completely seal delicate knife-edge pivots, keeping them clean and sensitive even after years and years of service.

For complete details on this sensational new development in draft control, see your jobber or write Walker Manufacturing and Sales Corporation.

Another Outstanding Walker Development

VENTURI-TOP CHIMNEY CAP



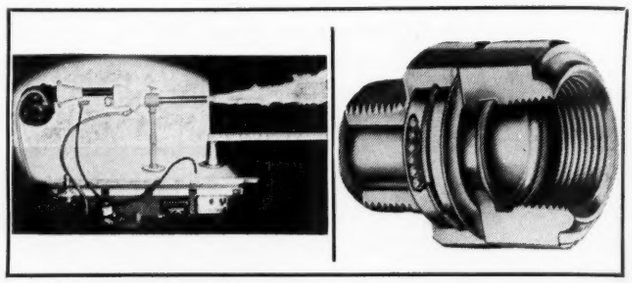
Ideal for both heating (gas, oil or coal) and ventilating applications. Directional vane keeps throat of vent facing into wind for maximum draft control. Sloping-throat design prevents back drafts and actually increases draft effectiveness by constricting it as it passes over chimney opening. Unit rotates on a friction-free, hardened-steel ball bearing. Pivot is also of hardened steel to assure lifetime operation. Ring guide bearing in pivot post keeps cap absolutely perpendicular—doesn't sag or lean. Streamlined design is both attractive and functional — a combination which makes it a favorite with today's architects.

Walker Manufacturing and Sales Corp.

1750 Penn St. St. Joseph, Mo.

Scully introduces Faslite Torch and improves swivel Connector

THE NEW SCULLY Faslite gas pilot torch has been designed for fast light-off for commercial and industrial oilburners. It has a hard, hot flame up to 25" long. An integral motor driven air injection system makes the flame highly resistant to air turbulence. Easily substituted for old type gas pilots on most commercial-industrial installations.



Scully has improved its swivel connector, for use between fueloil hose and nozzle, with a complete steel ball bearing assembly; a safety retention sleeve of steel running through both halves of the swivel and flanged at either end keeps all parts firmly in place. It weighs less because of its manufacture with a special metal alloy.

Made by: Scully Signal Co., Melrose, Mass.

Circle E22 on coupon, page 148

Spi-Rol-Fin baseboard radiation cover Assemblies come in Chrome

SPI-ROL-FIN baseboard radiation cover assemblies now are available with a chrome finish. Designed specifically for installations in kitchen or bathrooms, or in any room where cleaning and appearance is a problem, the assemblies are available in any length up to 8'.

Made by: Spi-Rol-Fin Corp., 133 Greenwood Ave., Pequannock, N. J.

Circle E23 on coupon, page 148

Electric action low-water Cut-off announced by Econo Products Co.

AN ELECTRIC ACTION low-water cut-off, called Electro-Larm, has been announced by Econo Products Co. A porcelain electric probe recorder is mounted through a tapping in the boiler and signals if water level falls by lighting a red signal light and sounding an audible alarm.

Has built-in timing device which prevents any signal being sounded by boiler surge. One size will accommodate any boiler.

A 12-page catalog describes the design and construction features of Econo's

SPI-ROL-FIN
BASEBOARD RADIATION

Quality...
at competitive prices

with these features...

- **APPEARANCE** — *Second to None*
- **EASY INSTALLATION** — *No Cutting*
- **SUPER-FIN ELEMENT** — *Original & *Patented*
- **INDIVIDUAL PACKAGING** — *No waste*
- **ASSEMBLED UNITS** — *Lower labor cost*
- **IDEAL CRADLE HANGERS** — *No noise*
- **WHITE FINISH** — *No painting required*
- **CONTROLLED HEAT** — *Damper "slips-in"*

Efficiency plus Appearance

Heating Contractors, Architects and Home Owners can now have this deluxe, forced hot-water heating system, designed and built to the highest standards of efficiency and appearance, plus simplicity of installation without the penalty of high cost.

● *NEW*

CHROME

COVER ASSEMBLY

Ideal for Kitchens and Baths — they fit into the picture of todays sparkling new interiors perfectly.

Canadien Distributor

T. L. Livingston & Sons, Ltd.
73 Main Street, East
Hamilton, Ontario

write, wire or phone for complete information!

RADIATION srf PRODUCTS

SPI-ROL-FIN CORP.

133 GREENWOOD AVENUE PEQUANNOCK, NEW JERSEY

Telephone TERHUNE 5-3352

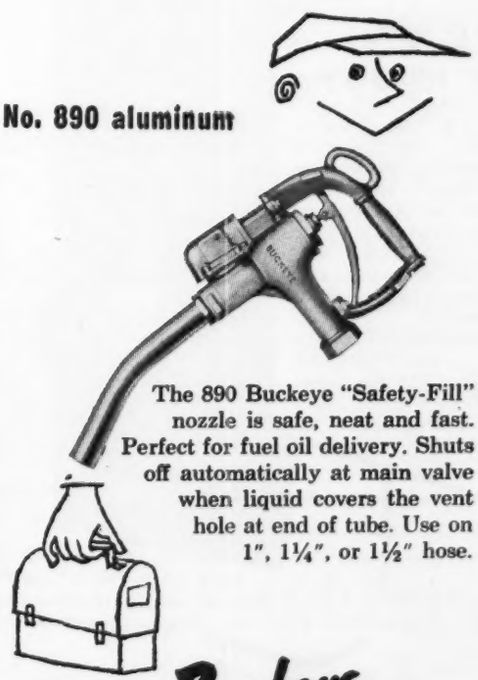
two workman-like Fuel Oil Delivery Nozzles

Which one do You need?

No. 782 brass
(No. 882 aluminum)

Buckeye large capacity nozzle No. 782 is designed for fuel oil delivery. It has given dependable service for many years. No. 782 has an easy opening valve mechanism, and graduated notches in rear guard for controlled delivery speed. Sturdily constructed for heavy work, it operates on gravity or pressure flow. SIZES: 1", 1¼", 1½", 2".

No. 890 aluminum



The 890 Buckeye "Safety-Fill" nozzle is safe, neat and fast. Perfect for fuel oil delivery. Shuts off automatically at main valve when liquid covers the vent hole at end of tube. Use on 1", 1¼", or 1½" hose.

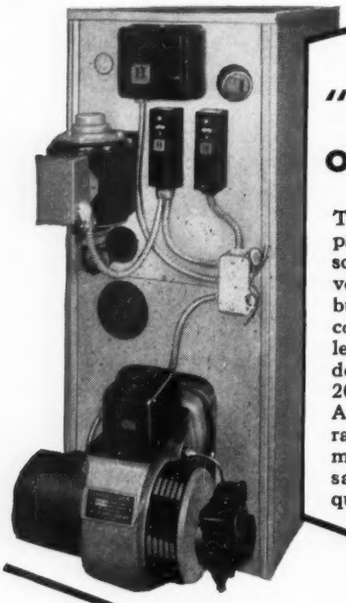
Buckeye

through your oil equipment distributor, or write

BUCKEYE IRON & BRASS WORKS, Dayton, Ohio

PENN... FAMOUS FOR HEATING PACKAGE VALUES!

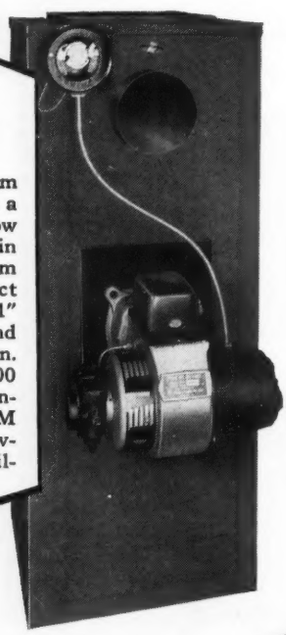
Completely Wired, Assembled and Ready to Operate



PENN "760" BOILER

Oil and Gas Fired

Top value in a complete package unit. Efficient square-type boiler with vertical fire tubes . . . with burner, circulator and all controls. Built-in tankless coil for year-round domestic hot water. 115,-200 BTU gross rating. Approved by ASME, rated by SBI. Priced to meet competition without sacrificing Penn's high quality standards.



PENN LOW HI-BOY

Complete forced warm air unit . . . ready to do a real heating job at low cost. Equally efficient in basement or utility room installations. Compact . . . only 53" high, 21" wide, 18" deep . . . and easily carried by two men. Two models . . . 70,000 and 85,000 BTU (at bonnet) . . . with 700 CFM and 900 CFM air delivery. Both models available in counterflow.

Investigate the PENN Line of heating and air conditioning equipment. Write Dept. FO-4 for complete information.

PENN BOILER & BURNER MFG. CORP.

LANCASTER, PENNSYLVANIA

. . . . New Products

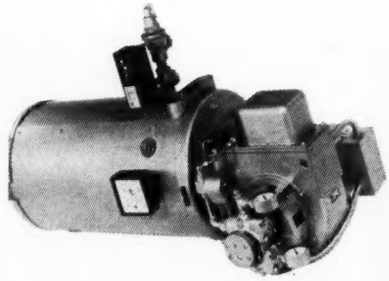
Magic Head circulator, which provides extra power needed to overcome friction and line resistance found in many hot water baseboard systems.

Made by: Econo Products Co., East Haddam, Conn.

Circle E24 on coupon below

Way-Wolff's Ship-Heater provides hot water Heat for smaller Boats

BRINGING HEAT AND HOT WATER to boats in the 40 to 60 ft. class is a new small sized Way-Wolff Ship-Heater designated Model 917-6C. Of 2-pass fire tube, wetback design the unit stands about 35" from the deck and its base covers a circle less than 14" in diameter. Complete with controls it weighs only 175 lbs.



Automatically firing Diesel oil, the new model mounts in either vertical or horizontal position and may be suspended. An integrated unit the boiler is complete with combustion chamber in place; insulated steel jacket; oil-burner assembly complete with oil pressure and vacuum gauge and magnetic oil valve. Operates on DC or AC current, has an output rating of 60,000 btu/hr.

Made by: Way-Wolff Associates, Inc., 33 Fulton St., New York 38, N. Y.

Circle E25 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD AUGUST
Mail Now—Card Expires October 31, 1955

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1	E2	E3	E4	E5	E6	E7	E8	E9
E10	E11	E12	E13	E14	E15	E16	E17	E18
E19	E20	E21	E22	E23	E24	E25		

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page ..... Advertiser .....

Your Name .....

Company ..... **Position** .....

Street .....

City .....

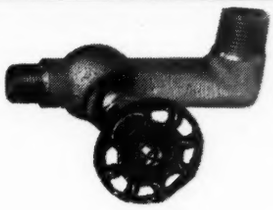
Check Classification of principal dollar volume:

☐ Fueloil Dealer ☐ Parts and Equipment Jobber ☐ Manufacturer ☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

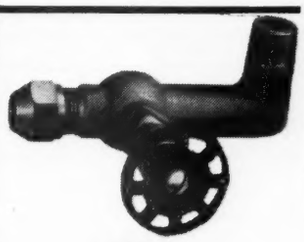
the complete line of OIL TANK FILTER VALVES

812-813
Oil Tank Valve
812—½" I.P.S. x ⅜" O.D.
¾" I.P.S. x ⅜" O.D.
813—½" I.P.S. x ½" O.D.
¾" I.P.S. x ½" O.D.

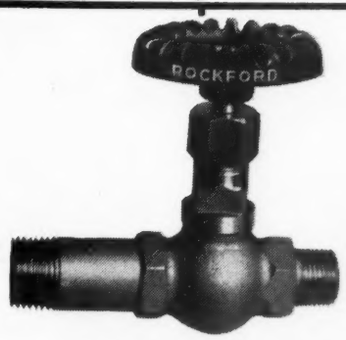
814—Brass Disc Globe Valve
¼" thru 2"



807—Bottom Outlet Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.



805-806
Bottom Outlet Oil Tank Filter Valve
805
½" I.P.S. x ⅜" O.D. Flare
¾" I.P.S. x ⅜" O.D. Flare
806
½" I.P.S. x ½" O.D. Flare



809—Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.

The superior features and quality of any Rockford Brass Works product quickly prove themselves in better performance and service.

Write today for our catalog showing the complete line of plumbing and heating brass products that we manufacture.

Plumbing Brass Since 1890

ROCKFORD BRASS WORKS
ROCKFORD • ILLINOIS

The Modern Draft Control that's "QUIET AS BARE FEET"

There's no need to pussyfoot around the fact that a rattling, squeaky draft control adds up to a problem job. And there's nothing "hush-hush" about the fact that Windmaster's vane is *permanently silent* — riding smoothly on two bearings of DuPont molded nylon.

Quiet and free from friction, Windmaster's nylon bearings will outwear steel and never need oiling — in fact, condensation or moisture lubricates nylon, with no chance of rust or corrosion.

- ***Non-Rusting, Permanently Silent Nylon Bearings***
- **45° Vane — no nervousness — faster response.**
- **Sloping Pipe Installation on the side of the pipe**
- **Large Square Vane — more effective area**
- **Calibrated Counterweight**
- **E-Z 'Dapter—quick, easy installation.**

Consult Your WHOLESALER

Windmaster® Corporation

43 Vine St. **Columbus 15, Ohio**

Manufacturers' Activities

American-Standard launches warm air heating Campaign

FEATURING 76 billboards and 33,000 lines of newspaper advertising emphasizing the advantages of warm air heating, American Radiator & Standard Sanitary Corp., New York, N. Y., recently launched an extensive fall publicity campaign covering the Cleveland and eastern Ohio area.

Continuing until the end of November, the program will highlight the names of dealers cooperating in the promotion. The distributors have already been contacted in an effort to acquaint them with the production and supply them with showroom displays and other sales materials.

Special sales crews have been brought in equipped with panel truck showrooms as part of the campaign to contact the dealers as quickly as possible. Each truck carries a warm air furnace and part of the line of winter, summer and combination units.

ECA forms Canadian Subsidiary with J. C. Carlile as Manager

FORMATION of a Canadian subsidiary, to be known as the Electronics Corporation of America (Canada) Ltd. with headquarters in Toronto, has been announced by the parent organization, Electronics Corporation of America, Cambridge, Mass. James S. Carlile, who has been supervising company sales activities in Canada, has been named as general manager of the new organization.

ECA (Canada), among other activities, will handle the Canadian operations of the Combustion Control and Fireye Divisions. The Combustion Control Division manufactures Fireye controls for burning fuel safely; Fireye Division produces fire detection and extinguishing systems for industry.

Both products are sold through distributors. The announcement added that the new corporation will assist presently established ECA distributors in Canada through the establishment of service and repair facilities at Toronto.

American Air Filter to expand Famco Plant in Louisville, Ky.

THE MANUFACTURING AREA of Famco, Inc., a wholly owned subsidiary of American Air Filter Co., Inc., Louisville, Ky., will be increased 60% when a recently begun addition is completed.

The company manufactures glass fiber filters for furnaces and airconditioning units and the expansion of the plant will permit manufacturer of additional types of glass fibers for other uses.

Bermuda Vacations top Prizes in Bryant Div. dealer Contest

MANY EXPENSE-FREE VACATIONS to Bermuda are being offered as prizes in a dealer sales incentive promotion sponsored by the Bryant Division, Carrier Corp., Syracuse, N. Y.

THE WEATHER-CHRON . . . the TIME SWITCH that "Outguesses" the WEATHER

Now no need for guessing what the weather will be and constantly resetting your time switch! Select the comfort hours desired and the WEATHER-CHRON automatically resets itself as the weather changes to provide the needed operation. The outdoor temperatures control time heating starts in the morning and time of cutback at night.

MORE THAN JUST A "TIME SWITCH"

The WEATHER-CHRON stops all heat input to the building when outdoor temperatures raise above an adjustable pre-selected temperature (as 65° F.). Eliminates night setback in extreme cold weather.

It can be used in any space heating control circuit in any type of building where lowered night or weekend temperatures are desired.

Fully described in our new Bulletin S-355. Write for it today.

PRODUCT OF

AUTOMATIC DEVICES CO., INC.

714 Hillgrove Ave. • Western Springs, Ill.

HOW LONG DO YOU GUARANTEE PERFORMANCE?

Year in, year out, Acme Electric oil burner ignition transformers prove their steady performance in actual service. They often represent the insurance between satisfactory operation and costly service to your burner.

Add Acme Electric transformer's dependable performance to your oil burner. They'll help make warmly satisfied customers.

ACME ELECTRIC CORPORATION

Main Plant: 508 Water Street • Cuba, N. Y.

West Coast Engineering Laboratories: 1375 W. Jefferson Blvd., Los Angeles, Calif.

In Canada: Acme Electric Corp. Ltd., 50 Northline Rd., Toronto, Ont.

Acme ACME Electric TRANSFORMERS

Each dealer has a "bonus goal"—a dollar figure equivalent to a fixed percentage of his purchases of Bryant equipment in 1954. Once his purchases total $1,000, he begins to receive special point checks which may be applied toward the Bermuda trip or special prizes in Bryant's catalog.

Atlantic Refining's meetings review fueloil sales Methods

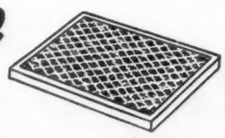
DURING THE PAST two and a half months, the Fueloil Division of the Atlantic Refining Co., Philadelphia, Pa., has been conducting a series of 64 meetings for their fueloil distributors in the area ranging from Georgia to Vermont to Ohio.

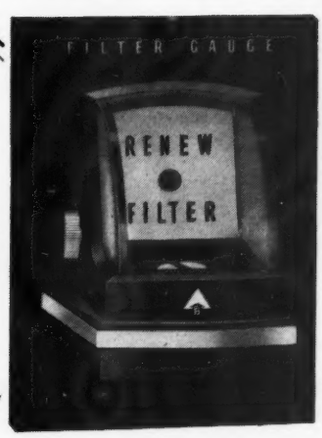
Under the direction of J. R. Helwig and Jim McCarty, assisted by Frank Miller and Bill McFadden, the meetings which averaged 30 in attendance covered such sales points as Methods or Sources of Information Leading to Prospects, Turning the Prospect into a Customer, and Closing a Sale. During the discussion of each topic, a number of visual aids were used including slides, actual experiments, and cartoon cards, all of which were tied in with Atlantic's advertising themes of "Protection—Triple refined oil plus Exclusive additive equals Trouble free operation," and "Maximum Heat—Balanced Blend plus High Burning index equals Clean, low cost heat."

Emphasized throughout the meeting were the advantages the fueloil dealer had to offer his customer, listed as: quality of the product; the fueloil dealer's standing as a member of the community; metered deliveries; burner service; budget programs.

Produced for showing *at wholesaler-dealer meetings, Gerwin Industries, Inc., Michigan City, Ind., recently issued a Hollywood-type motion picture which delivers a sales presentation and develops a sales prospect demonstration. Shown here is a scene depicting a dealer demonstration. An additional feature is the use of free dealer sales aids and suggestions for their utilization. A half hour in length, the sound-color film may be obtained by contacting the company.*

Now! A Reliable FILTER GAUGE that SELLS ON SIGHT!





FOR FORCED AIR HEATING, VENTILATING, AND COOLING UNITS

$6.35 LIST LESS LIBERAL DEALER'S DISCOUNT

- INCREASES PROFITS
- EASY TO INSTALL
- SELF-CONTAINED
- SELLS MORE FILTERS
- CUTS EMERGENCY CALLS
- USES NO ELECTRICITY

ASK YOUR JOBBER OR WRITE FOR LEAFLET 111

BACHARACH INDUSTRIAL INSTRUMENT CO.
FG-2a 7301 PENN AVENUE • PITTSBURGH 8, PA.

This X-Ray View shows why *quickdraft* alone can claim . . .

Patents are pending on the exclusive features of *quickdraft* which produce all the draft you need without obstructing smokepipe or flue. And we mean no obstruction—ever!

It's hard to believe, but true—the shorter the chimney, the better the draft with *quickdraft*. So, get all the facts. You'll want to use *quickdraft* on your next job. Write for complete literature, installation manual and name of nearest jobber, to Quickdraft Company, P. O. Box 87, Duber-Hampden Bldg., Canton, Ohio.

quickdraft
DRAFT CREATOR

"HANDLES LARGE VOLUME ON SMALL AMOUNT OF CAPITAL, CAUSING SOME TRADE SLOWNESS. PROGRESS SMALL."

That's what a Dun and Bradstreet report told us about a company whose credit we were checking.

It sums up a condition that is almost universal where sales are expanding too rapidly to be handled properly out of profits after taxes.

Lexington's plan of financing on the security of accounts receivable is the way to cure this situation and change "progress small" to "progress substantial."

Write for Descriptive Circular F-6

LEXINGTON CORPORATION

Fuel Financing
In the New England Area

M. S. Lurio, Pres., D. A. Robinson, Treas.
10 Milk Street, Boston 8, Mass.
Liberty 2-6264

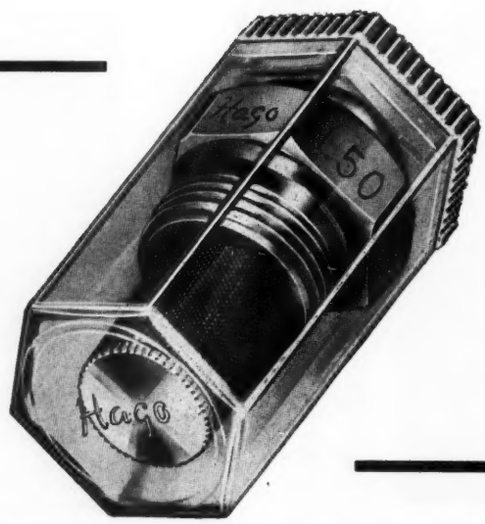
A relatively new idea, the burner efficiency test is aimed at showing the homeowner when, where and how he can save money next winter through repair of his oilburner. Other suggestions made to aid in the increase in sales were free burner tests, and the distribution of cards with suggestions for repair work which the homeowner might undertake himself.

Summation of the course reminded the distributors that they must know what they are selling, know what the customer is looking for, and be prepared to make a closing.

Mid-Hudson *Oil Co., Inc., Poughkeepsie, N. Y., recently celebrated its 20th year. From its small beginning in 1935 the company has grown to the point where it employs 55 people, operates 30 trucks and has a bulk storage capacity of 10½ million gals. Esso Standard Oil Co. officials were welcomed at the Dutchess County Airport when they arrived to take part in the celebration. From left to right are Donald P. Love, vice president and secretary, Mid-Hudson; William W. Bryan, Esso's northern regional manager; Richmond F. Meyer, president, Mid-Hudson; Bronce L. Ray, Esso vice president; and Walter F. Spath, Esso's New York manager.*

PRECISION *Hago* NOZZLES

THE NOZZLE THAT SELLS ITSELF!



PACKED IN THE ORIGINAL CLEARSITE HEXAGON CONTAINER

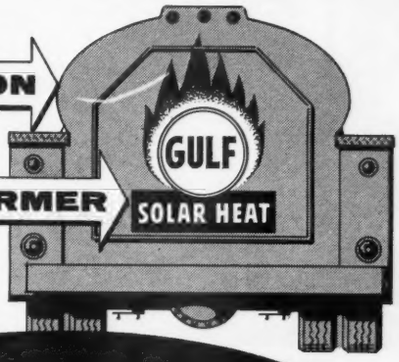
ALL CONTAINER LIDS NOW IMPRINTED WITH SIZE AND DEGREE!
Red for Hollow ***Blue for Solid***

***Hago Products* - 1281 Springfield Ave., Irvington 11, N. J.**

***In Canada*—RICHARDSON DISTRIBUTORS, 15 Brule Gardens, Toronto**

Attention...Heating Oil Dealers!

Hitch your
SALES WAGON
to a
STAR PERFORMER



GULF SOLAR HEAT

... the popular brand heating oil preferred in more than a million homes.

The proof is in the profits they're enjoying!

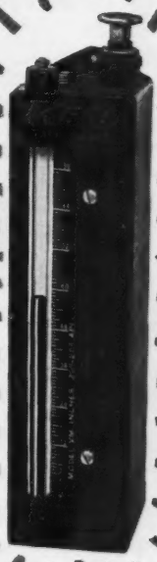
● Now is the time to join the growing number of resellers who have switched to marketing this top-quality product for greater sales volume and unparalleled customer satisfaction.

Gulf Oil Corporation • Gulf Refining Company

new!

KECO

Remote-Reading TANK GAUGE
For Oil and Gasoline



➡ Versatile!
➡ Attractively Priced!
➡ Economical to Handle!
➡ Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.
Box 410 • Ann Arbor, Mich.
MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

See Your Nozzle Inventory at A Glance!

WEBCO OIL BURNER NOZZLE RACK

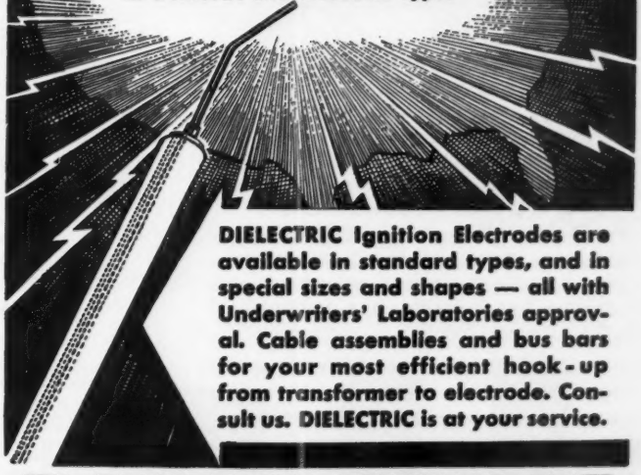
$2.99
For Complete Rack

This attractive, durable and sturdy metal rack holds 150 nozzles in their containers . . . any brand, any make. It will save you time and money. Order yours today!

A. R. WEBBER CO., INC.
424 HOWARD AVE., NEW HAVEN, CONN.

EVERYWHERE

The Outstanding Leader
In Hundreds of Makes of Oil Burners
In Domestic and Industrial Types



DIELECTRIC Ignition Electrodes are available in standard types, and in special sizes and shapes — all with Underwriters' Laboratories approval. Cable assemblies and bus bars for your most efficient hook-up from transformer to electrode. Consult us. DIELECTRIC is at your service.

DIELECTRIC

PRODUCTS CO., Inc.
125 VIRGINIA AVE., JERSEY CITY 5, N.J.

Try both—ON US!

Works in seconds!

Loosens Rusted Bolts
nuts . . . screws . . . parts
LIQUID WRENCH

A powerful blend of quick-acting solvents that frees "frozen" parts without breakage. Safe for all metals and alloys.

Makes joints LEAKPROOF!
TiteSeal
GASKET & JOINT SEALING COMPOUND

7 BASIC BLENDS

Makes all assemblies leakproof and pressure-tight. Easy to apply with brush-in-handle.

- NON-SOLVENT—WILL NOT HARDEN
- WILL NOT SHRINK, CRACK OR CRUMBLE
- HEATPROOF AND VIBRATION-PROOF

Write for FREE sample

TWO of the many famous SOLDER SEAL products available from your Automotive, Plumbing or Hardware wholesaler.

RADIATOR SPECIALTY COMPANY
Charlotte, N. C.

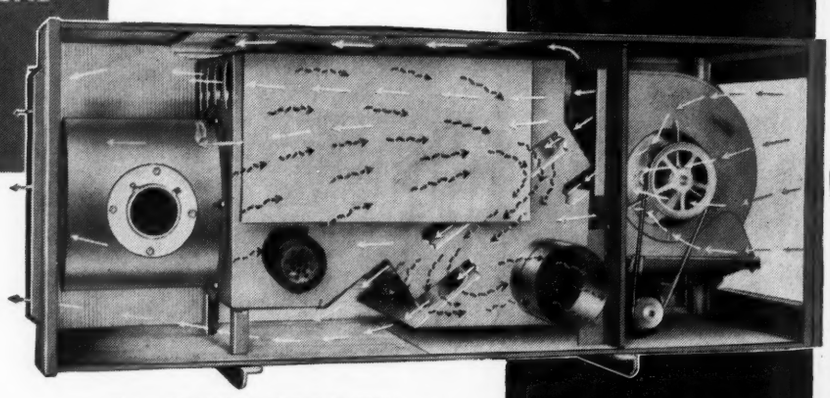
Frank H. Faust, *manager for marketing research, General Electric Air Conditioning Div., Bloomfield, N. J., teaches an evening graduate course at Stevens Institute of Technology. His students are professional men studying for their* MS *degrees. Faust joined* G.E. *in 1926 and four years later designed the first self-contained room cooler.*

Torrington Booklet features Equipment fitted with Fans

THE 1955 EDITION of "How to have comfort from moving air," published by Torrington Mfg. Co., Torrington, Conn., again features equipment made by companies who use fans to circulate air for comfort. Every piece of air-moving equipment described in the booklet, the foreword explains, is designed to contribute to physical comfort and is equipped with a Torrington Vairified air impeller.

Twenty-one categories are contained in the booklet, divided into cooling-ventilating units and heating equipment. These include central and room airconditioners, air circulators, attic fans, central heating systems, oilburners, space heaters and unit heaters.

UNIVERSAL OIL OR GAS FIRED HEATERS GIVE YOU SAVINGS 3 BIG WAYS...



1 PRECISION ENGINEERED
Universal's engineering principals are "tried and proven" to give maximum efficiency at minimum cost. You can be sure you own the finest when you buy Universal.

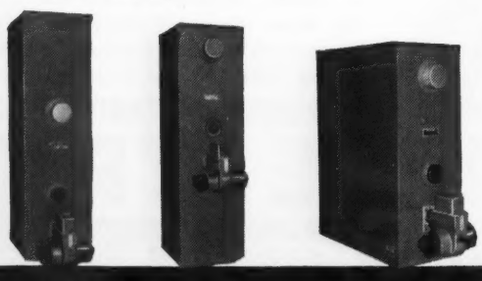
2 EFFICIENT, ECONOMICAL
The Universal triple pass heat exchanger develops heat faster with less burner operation—giving you greater ecomony. Quiet, trouble free operation is a trademark of All Universal heaters.

From 85,000 to 450,000 BTU's.

3 BEAUTY
Good looks allow installation in exposed areas, Universal suspended models allow the selection of the most economical installation point within "living" areas. There's a Universal designed for large or small areas.

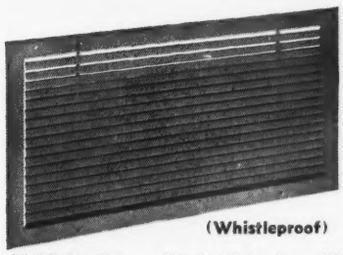
Low in First Cost — Low in Operating Cost.

WRITE TODAY FOR FULL SPECIFICATONS!



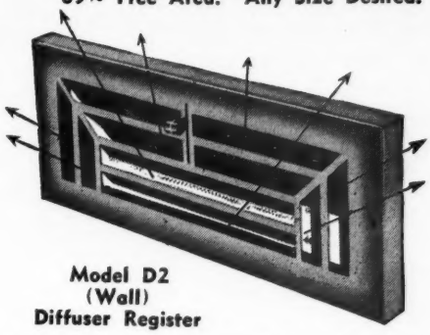
Above is the Triple Pass Heat Exchanger of our suspended oil or gas fired unit heater. It allows longest possible fuel travel and assured minimum consumption of fuel—lowest stack temperature—and highest efficiency, the most heat from the least fuel. Ideal for stores, garages, motels, & homes. Mount vertically or horizontally.

UNIVERSAL PRODUCTS MFG. CORP. AUBURN, INDIANA



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



Model D2 (Wall) Diffuser Register

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.

3169 East 80th Street Cleveland 4, Ohio

BOSTON DRAFT STABILIZER

WORLD'S MOST ACCURATE DRAFT CONTROL

GUARANTEES CONSTANT DRAFT

and protects your heater against draft variables that destroy efficiency!

NOW AVAILABLE

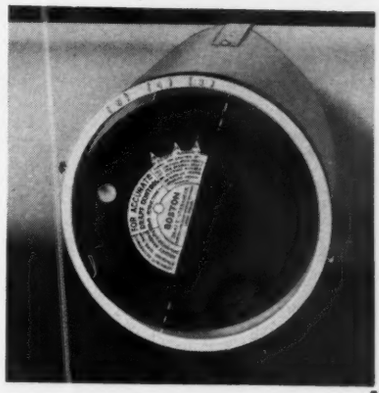
in 6", 7", 8", 9" and LARGER SIZES up to 24".

All available with or without TEE section.

TOPS in ability to hold draft yet the EASIEST to install.

NO WEIGHTS TO ADJUST

Can be properly set, even without instruments.



OPERATE YOUR HEATER AT PEAK EFFICIENCY WITH ACCURATE DRAFT CONTROL

BOSTON DRAFT STABILIZER

1. Slows down travel of gases thru the heater to a desired CONSTANT speed so heater can absorb the heat before it reaches the stack.
2. Holds a constant draft because variations in draft-pull result in changes of air delivery from the burner fan, causing changes in smoke content and CO_2 of your combustion.

Write for complete details

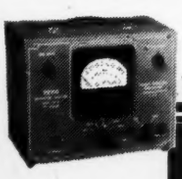
BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

Why make combustion efficiency tests the hard way?

You don't need a whole bag full of gadgets to make a quick, accurate test. Only the "VECO" battery operated combustion analyzer (in seconds) gives you three readings on a *single dial:* CO2, stack temperature and draft. Light, compact, rugged and simple, the "VECO" is a one-piece job. No messy chemicals or complicated set-ups to do.

The accurate, dependable "VECO" is worth the difference and will soon pay for itself. You'll never go back to old-time methods. Ask your jobber or write for complete details.



Victory Engineering Corporation

101-A Springfield Road, Union, New Jersey

Tel. Murdock 8-7150

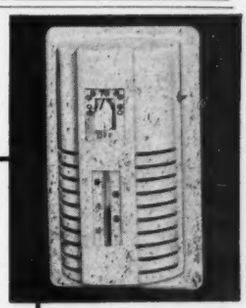
VECO

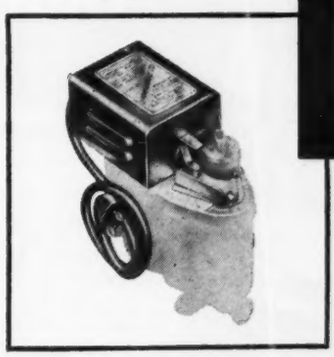
THERMISTORS • VARISTORS

TEMPERATURE SENSING DEVICES

ELECTRONIC AND THERMAL CONTROL INSTRUMENTS

McCORKLE 412 PACKAGE SET





Makes the Circulating Heater Fully Automatic

The 412-C2 Package Set can be easily installed by your customer. The set consists of Model C-2 Wall Thermostat, Automatic Head with built-in low voltage Transformer, plug-in cord and 25 feet of flexible double conductor wire. Complete and detailed instructions packed with each set.

- *Simple to Install*
- *Plugs in Standard Outlet*
- *Automatically Maintains Even Temperature*

D. H. McCORKLE CO.

BOX E, STATION A • BERKELEY, CALIFORNIA

OIL BURNER
IGNITION ASSEMBLIES
for
industrial and
residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

Crown Engineering
CORPORATION
KEYPORT • NEW JERSEY

A full page is devoted to each manufacturer's products, picturing a representative model, followed by a description of its function and operation, along with specifications. In addition, each category is preceded by an introduction that explains what the section covers.

The book has been designed to facilitate selection of air-moving equipment and is intended to be useful to homeowners, renters, builders, architects or anyone engaged in retail or wholesale selling. Many copies already have been distributed; additional copies of the 144-page booklet are available from Torrington at 50¢ a copy.

Vulcan has coast-to-coast sales, engineering Meetings

MEETINGS AND SHOWINGS in key cities for architects, engineers and jobbers are being sponsored coast-to-coast by the sales and engineering department, Vulcan Radiator Co., Hartford, Conn.

The flying sales and engineering meetings began in the southern part of the United States and cover Vulcan's new liquid baseboard airconditioning system. Milton L. Lundgren, director of sales and advertising, and Joseph Pierce, chief engineer, are conducting the meetings.

Eureka Williams has overseas Conference at Brussels Fair

A TWO-DAY CONFERENCE for distributors in 17 countries was held by Eureka Williams Co., Bloomington, Ill., at the Brussels (Belgium) Fair. The new line of oilburners was introduced overseas.

Herbert J. Allemang, executive vice president, M. P. Langdoc, export manager, and Vic Krouse, technical consultant, participated in the program. A. H. Godefroi, Oil-O-Matic distributor in Belgium, officially welcomed the group.

Promotion Kits aid Armstrong Dealers sell new home Market

A NEW HOME promotion kit has been prepared by Armstrong Furnace Co.,

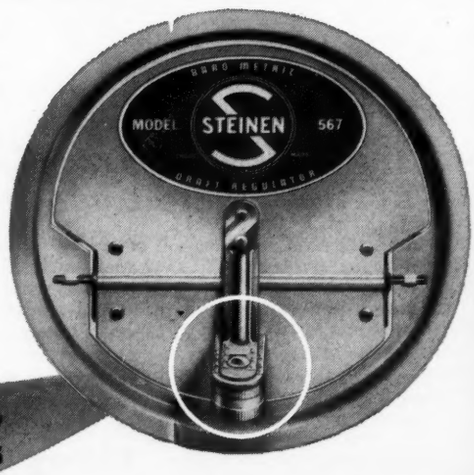
HERE'S THE WEIGHT
That LIGHTENS Your Work

—adjustments made within seconds.

Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installation. It is not necessary to interchange ANY parts on the Steinen Draft Regulator.



STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

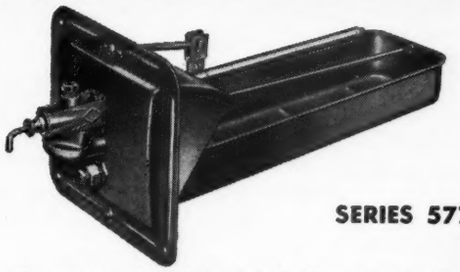
ESTABLISHED 1907
STEINEN
TRADE MARK
WM. STEINEN MFG. CO. 43 Bruen St., Newark 5, N. J.
MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING

COMPLETELY ASSEMBLED

Vaporite

AUTOMATIC HUMIDIFIER

OFFERS QUICKEST – FASTEST INSTALLATION
ADJUSTABLE TO SLOPING OR STRAIGHT
BONNET FURNACES



SERIES 577

Stainless steel construction. Drip-feed puts just enough water in pan for fastest vaporization. Eliminates scum . . . no stagnant water pan.

Pre-assembly cuts labor time and costs. To install simply cut hole in plenum wall, slip VAPORITE in just as it comes from shipping package.

Get complete information. Write FO-8

Automatic Humidifier Co.
CEDAR FALLS, IOWA

New! **RADIANT**
DIRECT OIL FIRED
WATER HEATER

- For Homes, Apartments, Industries
- ASME Constructed
- Furnished with Combustion Chamber & Relief Valve
- Fuel Supply from Heating Unit Tank
- Radiant Burner, Automatic Safety & Water Temp. Controls
- Heater Guaranteed 5 Years

High and Low Pressure Oil Burners • Shell Head Burner • Winter Air Conditioner • Submersible Sump Pump • Utility Pump • Sump Pump

Write for complete literature on all Radiant products.

RADIANT UTILITIES CORP.
8817 18th Ave., Brooklyn 14, N. Y.

Estimating Heat Radiation Is Simple and Quick with

BEACON RADIATION BOOK

Price $4.00

Thousands of Dealers & Heating Contractors use this book daily and say "What A Big Time Saver"

Order yours today!

THIS pocket-size book shows the required radiation for all rooms of ordinary size with from one to three windows, one to three exposures, and every combination of walls exposed.

Other sections of the book show the square feet of radiation in each section of radiators of various styles and designs. A wealth of information on required radiation that can be carried easily in a pocket or brief case, or used as a desk reference.

Please Mail Remittance With Order. Please No C.O.D. Orders! !

HEATING PUBLISHERS, Inc.

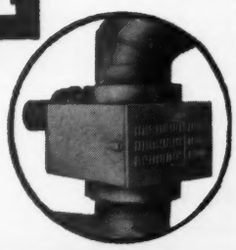
2 West 45 St. **NEW YORK 36, N. Y.**

Sensational Hoskinson
free heater

PROFIT NOW!

- Utilizes waste furnace heat going up chimney
- Automatically delivers free heat (no fuel cost) to any room in the home
- Easily installed in the flue pipe of home owner's heating system
- Wide home owner acceptance

Write for prices and literature



HOSKINSON FREE HEATER 248-47 JAMAICA AVENUE, BELLROSE, L. I., N.Y.

"CLEAN RIGHT" means

NO COSTLY EQUIPMENT

"CLEAN RIGHT" Soot Remover is a dust needing no costly equipment for application. And no costly equipment means no depreciation and transportation expenses. It all adds up to more profits for the dealer and more economy for the customer.

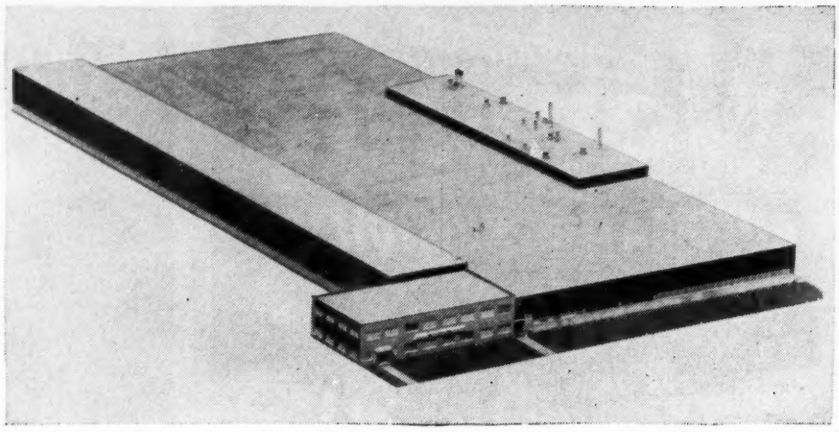
NON-CORROSIVE • NON-EXPLOSIVE

Always look for the broom on the package. Additional information is available.

MILLER PRODUCT CO.
3046 CEDAR ROAD • LANSING MICHIGAN

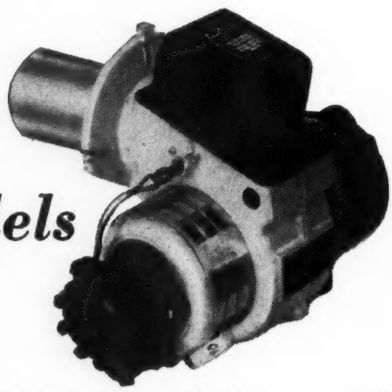
Columbus, O., to aid dealers selling builders, who in turn will benefit in selling homes.

Included in the kit are display easels, a homeowner's heating guide, stickers and a promotion plan booklet explaining the entire campaign to the builder.



An open house *was held recently at the new Park Plant housing the Uni-Flo Air Distribution Division, Barber-Colman Co., Rockford, Ill. The facility contains more than 125,000 sq. ft. of manufacturing space.*

7 new models



1 Over 20 different firing combinations . . . with the new "Spitfire" made especially for furnace and boiler manufacturers. That's Model F-285, Nu-Way's newest. Firing range: .65 to 2.85 gallons per hour.

fit any job . . .

		MODEL
2	.65 to 1.75 gal. per hr.	IXL-175
3	1.75 to 3.0 gal. per hr.	IXL-300
4	2 to 5 gal. per hr.	XLO-500
5	3 to 8 gal. per hr.	CO-800
6	8 to 15 gal. per hr.	XL-1500
7	15 to 20 gal. per hr.	XL-2000

There's a Nu-Way Oil Burner to fit almost any job — large or small, residential or commercial. Every model is engineered with features like 0.0015 inch motor pump alignment . . . sand-cast aluminum alloy housing . . . dependable transformers, manufactured extra-heavy by Nu-Way . . . easy servicing . . . in-operation nozzle adjustment . . . adjustable floor, flange or mounting. No wonder Nu-Way burners are standard equipment on boilers and furnaces made by so many leading manufacturers! Write today for Bulletin N1132 on new oil burners.

OIL HEATING EQUIPMENT

THE Nu-Way CORPORATION
ROCK ISLAND, ILLINOIS

Nu-Way is a member of O.H.I. and I.B.R.

Automatic Oil Heat Exclusively Since 1921

Booklet by McDonnell & Miller shows wet heat safety Devices

ENTITLED "Basic Safety Controls for Hot Water Space Heating Boilers" a new booklet published by McDonnell & Miller, Inc., Chicago, Ill., consists primarily of illustrations and accompanying captions.

Such topics as "What about over-pressure?" "What causes a safety relief valve to open?" "Can a low water condition occur in a hot water boiler?" are discussed in the three-color publication, which utilizes a series of drawings on one typical hot water space heating boiler.

The need for ASME pressure relief valves is shown, along with an explanation of why and how such valves operate, while the hazards of low water in hot water space heating boilers is also discussed.

The booklet includes specific service recommendations on the McDonnell ASME pressure relief valves, low water cut-offs, boiler water feeders, and feeder cut-off combinations to be used.

Those desiring a copy should contact the company's headquarters at 3500 N. Spaulding Ave., Chicago, Ill., and request Bulletin P-30.

Delco Appliance Division expands sales Force by Five

AS THE RESULT of increased demand for its line of products, the Delco Appliance Division, General Motors Corp., Rochester, N. Y., has added a total of five new sales representatives to its force.

Included are: Robert B. Swift, cov-

ering the Boston area; Frank McGraw who will operate in the Newark, N. J., section; Edward A. Tarver, working the Atlanta, Ga., area; James R. Snellen, operating in the Louisville, Ky., division; and Leonard G. Towle who will work in the Kansas City, Kan., area.

According to sales manager, William J. Wagner, the Division's sales hit an all-time high for the first four months of 1955, and it is anticipated that this demand will continue for the balance of the year.

Coleman Co. prepares Portfolio for Dealers selling Builders

TO HELP dealers capture more of the new home market The Coleman Co., Inc., Wichita, Kan., has prepared a portfolio of home merchandising ideas.

The kit includes reprints from various magazines along with point-of-sale posters and booklets to be used in new homes on display. It also contains material explaining Coleman's "Trend home" promotion.

Julian F. Warren has prepared the portfolio which is available to all Coleman dealers.

Burnham Corp. Host at annual golf Tournament

BURNHAM CORP., Irvington, N. Y., was host at its 24th annual gold tournament, held at Tamarack Country Club on June 27. Total attendance at the affair was 116; 74 played golf.

Low gross scores were posted by John Murray, Burnham, 80; Belmont Corn, Displayers, Inc., 80; K. E. Bush, Burnham, 81; A. M. Hunter, County Trust, 82; A. J. Hall, Burnham, 82; Adam Johnstone, Bastian-Blessing, 83 and H. F. Sweeney, Burnham, 86.

J. J. McGarrigle, Burnham, was hailed as the most honest golfer of the day when he carded a 167.

Thatcher Furnace announces sales Training, Promotion

THE THATCHER FURNACE Co., Garwood, N. J. has announced a new sales training and sales promotion program.

To be coordinated by Kenneth F. Muldoon, sales promotion manager, the program is the result of a series of field surveys aimed at determining specific dealer needs. The results of these surveys were translated into each of the elements in the new promotional package.

The program consists of four elements: techniques of telephone canvassing, door-to-door canvassing, conducting a home survey, and making the return call.

Further information about the program is available without obligation from the company's Department P, Garwood, N. J.

RENICK & MAHONEY, INC.

Get dependable EQUIPMENT

MARLOW VERTICAL PUMPS

For efficient handling of volatile fluids. Always dependable — on suction lifts, for underground or overhead storage, for fueling and transfer service. Easy to install. Capacities, 5 to 120 gals. per minute. Consult us now about *your* plant or truck equipment problems, or write for catalog.

Get dependable SERVICE

RENICK & MAHONEY, Inc.

380 Second Ave. (at 22nd St.)
New York 10, N. Y.

R&M SERVICE

Complete Equipment for the Oil Trade

Superior Filtering for all Oil Burning Equipment!

Klemm MICRO FUEL OIL FILTERS

FF-430 U/L

There's a Klemm Fuel Filter for every standard burner using No. 1 and 2 fuel oil. Your choice . . . metal or glass bowl. "Millions Since 1932."

1. Practically no flow resistance—true depth filtration.
2. Simplified construction for simplified service . . . no tools required.
3. Eliminates nozzle and line clogging for increased burner efficiency.
4. All parts . . . Hi-Chrome and Brushed Zinc.

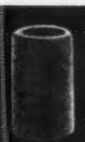
FF-430G

PK-150 U/L

JR-60

chemistone

Controlled porosity element assures sparkling, crystal-clean fuel oil every minute. Traps water . . . removes dust, rust and scale.



Klemm PRODUCTS

Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

FUEL OIL HEATERS

Five types, engineered for efficient operation; oil-through-shell or oil-through-tubes, for use with steam or boiler water — discharge or suction side of oil pump — U-tube or straight tube. Write for Catalog 62 containing capacity tables. General Fittings Company, P. O. Box 151C, East Greenwich, Rhode Island.

GENERAL FITTINGS COMPANY GF

CURE DRAFT TROUBLES

TJERNLUND
"Auto Draft" Inducer

No smokepipe obstruction, just cut a rectangular slot in smokepipe and band on.
Can be mounted horizontally or vertically.

Save *Fuel, Service Calls,* Customer Goodwill

TJERNLUND MFG. CO.
2140 Kasoth, St. Paul 14, Minn.

A 30-year service pin *is presented by W. S. Rheem II, general manager of the Rheem Manufacturing Co., Chicago, Ill. to R. S. Rheem, the company's president. D. L. Rheem, executive vice president (right) received the same award, with J. P. Makenas (left), Chicago region manager, as host for the presentation. In the 30 year period, Rheem has grown from a first year's volume of less than $100,000 to net sales of $163,623,302 in 1954.*

Which Month Has 28 Days?

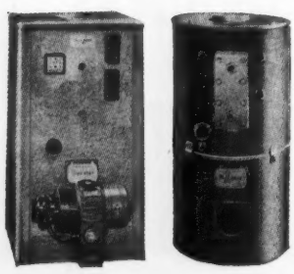
When I was a boy down in Kentucky a smart-aleck kid used to ask me questions like that and when I'd come back with "February, of course," he'd put over the trick answer: "Oh, no—ALL of the months have 28 days." I guess he thought I'd admire his trickiness, but all it ever did was make me mad. I've shied clear of all kinds of smart-alecks and their tricky questions ever since.

Most people are like me. If dealers are told lies about a boiler, that boiler manufacturer is going to suffer. Here in the Marietta organization, we just want to help our dealers make profits, so we can make some too. The reason our business is growing steadily is really very simple: We treat our customers like we would want to be treated. We ship boilers that are properly designed, carefully made of the best materials, and equipped with the best accessories. Its record in the field makes us believe that "Magic-Heat" is the finest boiler made, and that our prices are the most reasonable in the oilheating business. OUR SERVICE IS GOOD, TOO.

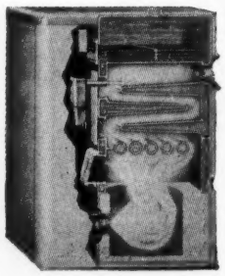
Which reminds us that you are going to sell about 50% of your year's boilers in the next 3½ months. With the steel situation somewhat hectic,—BE SURE OF YOUR BOILER MANUFACTURER'S SERVICE.
It won't cost you much to find out about ours. Write, wire or phone. Maybe a little "Magic-Heat" applied to your business would reduce your troubles and swell your profits!

John Hancock

President



Magic-HEAT



MARIETTA METAL PRODUCTS CORPORATION

540 North 63rd Street
Philadelphia 31, Pa.
GRanite 4-3076

MARIETTA, PA.

Box 66
Marietta, Pa.
Marietta 6-3951

U. S. Machine launches Drive to double field sales Force

DUE TO THE INTRODUCTION of new heating and cooling products and increased manufacturing facilities, the U. S. Machine Division of Stewart-Warner Corp., Lebanon, Ind., has initiated a recruiting drive to double its field sales organization.

According to Claude A. Potts, general sales manager, "The ultimate goal of this campaign will be 10 regional managers, 100 district sales managers and 3,000 franchised dealers." It is planned that when the program reaches its completion each regional manager will have 10 district representatives under his jurisdiction, and each district man will work with no more than thirty dealers.

The five men promoted from the district ranks to regional sales posts are Walter R. Leander, Indianapolis; Carl G. Lang, Naperville, Ill.; Carl L. Riddle, Norristown, Pa.; Stephen W. Boharic, Lorain, Ohio; and William E. Macneil, Abington, Mass.

Nine new district men include: Henry C. Gabel, Norristown, Pa.; Paul Knoblock, Wheaton, Ill.; Paul R. Moneypenny, Warren, Ohio; Wilbur T. Fites, Alliance, O.; J. Rogers Leech, Rumford, R. I.; William R. Rudd, Durham, N. H.; Joseph R. Johnson, Elgin, Ill.; Wm. H. Moore, Jr., West Chester, Pa.; and John H. Speer, West Chester, Pa.

Hydrovalve issues Catalog on burner Part Replacement

ENGINEERED oilburner replacement parts are the subject of Catalog 55

recently completed by the Hydrovalve Co., Brooklyn, N. Y.

Featuring a line of specially designed servicing tools, such as a "Quick Test Gauge Adapter" and an "Electrode Bending Tool," the blue and white, 12 page booklet also includes a variety of replacement parts which may be easily installed by the serviceman.

Available without charge, the booklet may be obtained from the company's headquarters at 1319 Utica Ave., Brooklyn 3, N. Y.

Elliott succeeds Holloway as President of Crane Co.

THE CRANE CO., Chicago, Ill., has elected Frank F. Elliott, senior vice president of sales since 1952, as president and chief executive officer.

A veteran of 33 years with the organization, Elliott succeeds John L. Holloway, who resigned as president and director because of ill health. Holloway will continue as a consultant to the company.

Elliott joined Crane in 1922 as a sales engineer at the company's Los Angeles branch, and in 1928 he was named sales manager there. He then was transferred to the San Francisco branch, and in 1943 was made western district manager, the post he held until elected vice president in charge of branches in 1951.

Burns Heating Supply sponsors Warm Air promotion Gathering

IN CONJUNCTION with the Jackson and Church Furnace Co., Saginaw, Mich., the Burns Heating Supply Co., Inc., Long Island City, N. Y., recently sponsored two meetings for architects, engineers and heating dealers that were aimed at promotion of warm air heating.

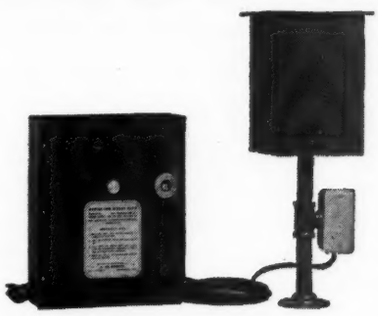
The first gathering was held at the New York Athletic Club, New York, with 153 in attendance. Following a cocktail party and dinner, the group heard Bill Nessell of the National Warm Air Heating Association discuss some of the advantages of that type of heating system.

Felice's Restaurant, Westbury, Long Island, was the scene of the second meeting, and Nessell again spoke on the same subject.

This is the third year that the two companies have combined to hold the series of gatherings.

Bryant buys industrial Site; moves to Indianapolis, Ind.

AS PART of the establishment of national headquarters, the Bryant Division of Carrier Corporation has acquired an industrial site for adminis-



ACCURATE DEGREE DAY INFORMATION

Automatically Computed

The Johnson fuel demand meter indicates the net effect of sun—wind and temperature on fuel oil consumption. Smooth out your degree day deliveries!

WRITE:

M. LEE JOHNSON
Johnson Degree Day Systems
329 S. PITCHER ST. KALAMAZOO, MICH.

Your Handy Source for ALL Gasoline and Oil Handling Equipment

COMPLETE LINES FAMOUS BRANDS

Acme Tank & Welding	Marlow Pumps
Allied Truck Tank	National Hose
Blackmer Pump	Neptune Meter
Buckeye	OPW Corp.
Evertite	Wayne Pump
Philadelphia Hose Reels	Wheaton

Factory-Trained Servicemen

"From a Bulk Plant to a length of hose We'll equip your business as it grows"

BERVIC COMPANY
760 Tolland St., East Hartford, Conn. JAckson 8-6563

HAYWARD
Rotary Atomizing Burners
¾ to 12 Gph
Boiler-Burner Units
400 to 730 Sq. Ft. EDR Steam
Pressure Atomizing Burners
¾ to 10 Gph
Boiler-Burner Units
200 to 2000 Sq. Ft. EDR Steam

HAYWARD

Write for franchise information:
HAYWARD OIL BURNER CORP.
86 Kirkland Street, Cambridge, Mass.
Factories in Brooklyn, N.Y. and Taunton, Mass.

EXTRA PROFIT

E-Z SOOT DESTROYER

FOR FUEL OIL SOOT ONLY

Keep a supply on every service truck. Sell cleaning jobs. E-Z does a thorough, safe job with just one application. Saves time. Pays extra profit. Sell one-lb. cans to customers. If your distributor cannot supply you, order direct. Regular trade discounts to dealers and servicemen.

No. 1 Pkg. (1 lb.) Retail Price—$1.50
No. 5 Pkg. (5 lbs.) Retail Price—$6.25
Special discount to distributors on quantity purchases

NORMAN CHEMICAL CO.
478 No. Cleveland Ave., St. Paul 4, Minn.

tration, sales, engineering and research offices across from their manufacturing plant and located at 48 Monument Circle, Indianapolis, Indiana. The company's home office was formerly located in Cleveland, Ohio.

Emerson Electric dedicates new Warehouse; moves N. Y. Office

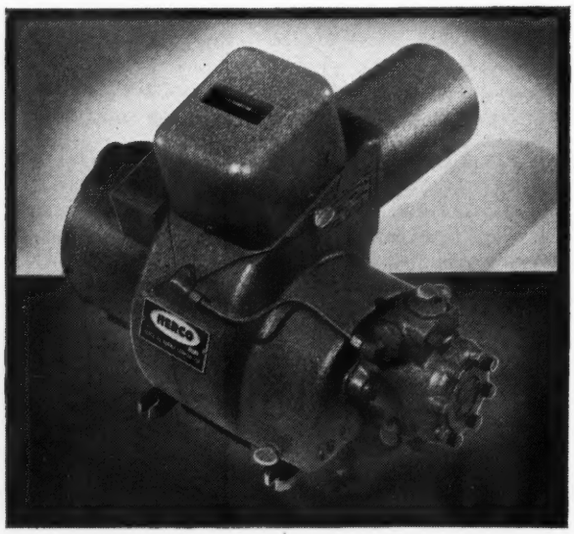
A STEEL and concrete warehouse located adjacent to the main plant has been dedicated and put into service by the Emerson Electric Manufacturing Co., St. Louis.

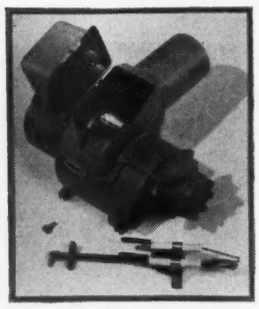
The ceremonies opening the new facility were attended by Mayor Raymond R. Tucker of St. Louis along with 2,000 Emerson employees and guests. The warehouse is designed to permit eventual conversion to manufacturing operations.

The company also has moved its New York district office to the Park-Murray Building, 11 Park Place, New York 7. G. E. Hansman is now manager of the office replacing Howard Sample who became manager of the Industrial Fan Division, St. Louis.

OIL THRIFTY
HERCO
BURNERS FOR EVERY JOB!

NEW—Low Cost—Wide Range





Model GS-1 High Pressure for quick servicing, quiet performance! For new or replacement jobs. New streamlined design cuts our production time, lowers costs. Savings are passed on to you without any sacrifice in quality!

Features: .65 to 2.25 gph, standard basic parts, Herco one-piece grey iron cast housing and separate draft tube. UL approved for CS-75. Individually fire tested and guaranteed. Write for catalog.

Thumbscrew Service: Turn one thumbscrew and loosen oil line union to remove entire one-piece ignition assembly!

Other Herco Products: high and low pressure oil burners, boiler-burner units, oil and gas fired warm air units. Free catalogs.

HERCO OIL BURNER CORP., LANCASTER, PA., U.S.A.

Robertshaw-Fulton re-names the manufacturing Division

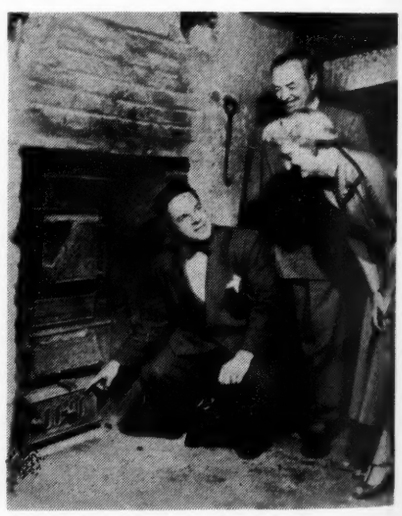
THE AMERICAN Thermometer Division of Robertshaw-Fulton Controls has been re-designated as the American Controls Division. The division is located in St. Louis, Mo.

The change of name which became effective May 1, will identify the division more closely with its products.

Shell Chemical announces Sales executive Changes

THE MARKETING Department of the Shell Chemical Corp., New York, N. Y., has announced five changes in management.

The changes are as follows: W. C. Lowrey, district manager, St. Louis, has been named manager of the Newark district. He is replaced by W. A. McCormick, formerly of the general sales manager's staff. Stepping into McCormick's place is G. E. Garland, formerly district manager, New York; while R. W. Campbell, recently senior technical salesman for the Los Angeles district, has been promoted to district manager for Los Angeles.



After 60 years *of continuous service this 1895 Thatcher Tubular Furnace, located in Elizabeth, N. J., has been replaced. Kenneth F. Muldoon (left), Thatcher sales promotion manager, Garwood, N. J., verifies the date with Edgar H. Weeks, Federal Oil Co., Union, N. J.*

Miss Polly Weinkauf, hostess of a restaurant now occupying the former boyhood home of World War II naval hero, Admiral William Halsey, looks on. Weeks installed a winter air-conditioner to replace the former unit.

NEED FILTERS?

be sure to say *Eddington*

. . . the filter that filters out oil burner troubles. Big capacity — big sump — long life. It's interchangeable, light-in-weight and sturdy.

Write for latest price sheets and information

EDDINGTON METAL SPECIALTY CO.
EDDINGTON, PA.

STRAINERS — SPRAY NOZZLES — VALVES — FILTERS — AIR CONES — STABILIZERS — INSPECTION MIRRORS — COMBUSTION HEADS

Motor and pump Alignment

(*Begins on page 78*)

To eliminate multiple set-ups and the possibility of alignment errors, Nu-Way developed and built a special boring machine for this operation. This machine finishes each housing completely for the motor and pump mounting at the same time without any change of position in the holding fixture. This assures perfect machining for alignment. As a production short cut, the hole for the pedestal mounting nipple is tapped during the same operation.

Both the pump and motor mountings are machined simultaneously by the heads at each end of the machine. A third head in the rear taps the base mounting hole. During the machining process, the mountings are rough bored and faced and then a very light finish cut is taken on the boring and facing operation. The housings are held solidly in place by pneumatic chucks. Push button operation speeds up this work materially, and even though each housing is checked for accuracy, it has been experienced that this machine will process many hundreds of pieces without any adjustment whatsoever. Tolerances between the motor and pump mountings are held to within 0.001".

From the above, it can be understood that the blower housing of an oilburner is a most important part. Proper design and construction, proper materials, and proper machining are all very important.

❖

Allied Distributing Co., Cincinnati, Ohio; *Heat, Inc.*, Fitchburg, Mass.; and *Climate Engineers Supply, Inc.*, Indianapolis, Ind., have been appointed as wholesalers by the General Electric Co., Bloomfield, N. J., in their respective areas. Allied will handle G-E residential furnaces, boilers and central home cooling; Heat will distribute packaged commercial and industrial airconditioning units in Maine, N. H., and Vermont; and Climate Engineers will wholesale Weathertron heat pumps. At the same time, *James S. Kelly, Inc.*, Point Pleasant, N. J., was named by the Weathertron Dept. as retailer for part of Ocean County, and *B. B. Baker Co.*, Sacramento, Calif., was appointed to distribute packaged airconditioning units for commercial and industrial installations in sections of California.

Harry J. McKenzie, Kansas City, Mo., has been named a sales representative for petroleum and industrial meters manufactured by the Neptune Meter Co., and will be assigned to the territory covering Iowa, Missouri and Kansas.

GOOD NEWS! → **LOW 1955 PRICES**

DRASTIC REDUCTIONS ON SMALL SIZES

Check **LITE-CAST COMBUSTION CHAMBERS** with your jobber!

MONOGRAM PRODUCTS CO., INC.
731 NORTH 35th STREET ★ PHILADELPHIA 4, PA.

OUR SEPTEMBER ISSUE: Oilheating's "Sure Place to Meet New Customers a

Special September Editorial Content:
FUELOIL MANAGEMENT ISSUE

The September Issue will be of very special value to our Readers and Advertisers. It will have a special 32-page Section on FUELOIL MANAGEMENT.

We have sampled 4,000 fueloil-oilheating dealers — the cream of the crop — to obtain special statistical information of top value to the dealers themselves, and to manufacturers of fueloil handling equipment, materials, accessories, and supplies. The dealers have relied upon FUELOIL & OIL HEAT's statistical data to help them make important decisions concerning their businesses for over 30 years. They gladly cooperate with this annual survey, knowing that the information they supply will establish a pattern against which they can measure their own operations.

The feature articles in this special FUELOIL MANAGEMENT Section will be timely and penetrating accounts of the methods responsible for outstanding successes at the independent fueloil-oilheating dealer level.

Fact Finders Associates, Inc. in a check of names they selected from telephone books in 20 cities, by personal interview found that—

Fueloil & Oil Heat is read by 87% of the dealers listed under "Oilheating" or "Oil Burners" or "Burners, Oil" or "Fueloil" or "Oils, Fuel" in the phone directories.

4.1 persons read each copy among dealers; 7 read each copy among manufacturers. They spend an average of 1¼ hours reading each copy, and 43% of the dealers and 50% of the manufacturers read it at home.

SEPTEMBER AD FORMS CLOSE AUGUST 20TH

How Much Space May We Reserve for You?

FUELOIL & OIL HEAT

2 West 45th St., New York 36, N. Y. • (MUrray Hill 2-4786)

A. G. WINKLER, *Adv. Mgr.* **LEE STEEDLE, *Ass't. Adv. Mgr.***

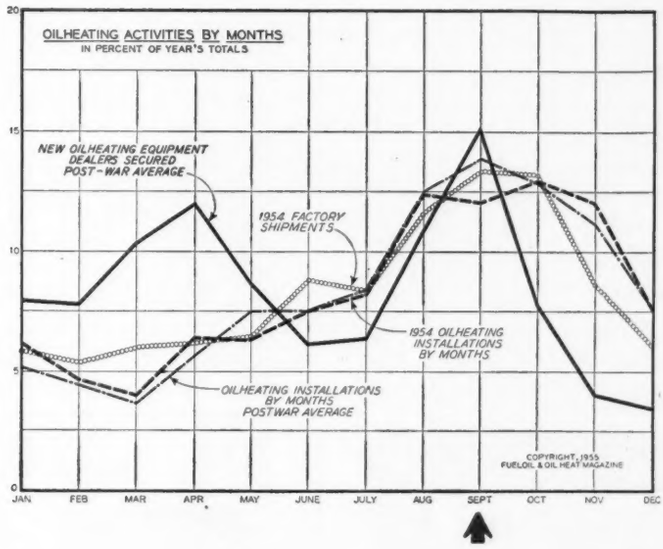
Midwest:—
Jack Metzel, 224 So. Michigan Ave., Room 200, Chicago 4 (WAbash 2-9548)

Michigan-Ohio:—
Jim Becker, 177 No. Main Street, Oberlin, Ohio (OBerlin 4-2814)

Pacific Coast:—
Don Harway, 1709 W. 8th St., Los Angeles 17, Calif. (DUnkirk 2-8576)

"Meeting at the Summit"

at the Summit of their Sales Year!



Here's Your Opportunity to Influence Oilheating Men at their Buying Peak!

September is "Pay-Off Time" for FUELOIL & OIL HEAT advertising — the month you can expect your advertising message to generate the most immediate action, and the time when our readers will buy in greatest volume. In September, manufacturers secure a peak of 15.2% of their year's new dealer and jobber customers, and ship a high of 13.6% of their year's total. During this top month, oilheating dealers install an average of 13.8% of their year's oilheating business, and secure about 10% of their year's "service calls" income.

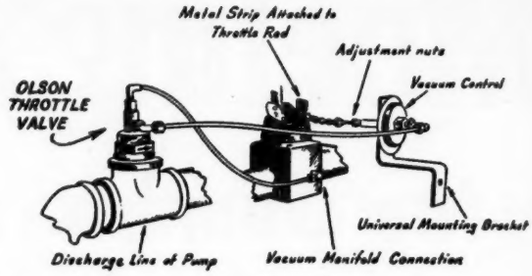
Advertising in our pages reaches the dealers who sell and install 78% of the oilheating; who do 90% of the service—replacement of parts, accessories and "modernization"; and 75% of the oil-fired year-round "airconditioning" (cooling for comfort); and who sell and deliver 80% of the Nation's fueloil. Your ads in our pages will also reach the jobbers who do 78% of the oilheating parts, accesories, installation and service materials, etc., and 99.9% of all the manufacturing executives in the U. S. who engineer, develop, produce or sell oilheating equipment.

Save Money with OLSON'S THROTTLE CONTROL

"INCREASES ENGINE SPEED ONLY WHILE LIQUID IS FLOWING"

Hand throttle adjustment not necessary. Engage pump, engine will stay at idling speed. Put nozzle in fill pipe and open, then engine speed is increased automatically to most efficient pumping speed. By automatically decreasing engine speed, when not pumping oil, you will save two or more hours a day of engine and pump wear. You will save gasoline. If compartment runs dry, or oil stops flowing, engine automatically returns to idling speed. A tee is installed anywhere convenient in the discharge line of pump. Throttle control is easily installed.

Price of Control is $34.50, F.O.B. Raynham, Mass. It pays for itself. Thirty day money back guarantee. Give size of discharge line when ordering. *Don't wait—start saving NOW!*



OLSON'S OIL SERVICE • Box 87, Broadway • Raynham, Mass.

My heating Plant is my Enemy

(*Begins on page 64*)

On May 18, 1955, I stood in the lobby of the New York Athletic Club, where everything tends to shy away from medicines not toward them, and I asked 40 men this question: "What product reduces over-acidity and stops headache at the same time?" You can guess what they said: 38 of them said Alka-Seltzer. That's 95%. I also asked them what kind of heating plant they had, and if it was good for their health. Of the 36 who lived in houses, exactly 7 (or 19%) knew the name of the equipment, or even how it operated and most said, "Health? What's that got to do with it?"

Let's just suppose that somebody had advertised, for the last five years, through their local dealers: "See Joe Dealer—he sells high quality (blank) equipment which helps keep you healthy through good heating."

My own opinion is that at least 50% of those people I personally interviewed would have known the (blank) name of the product. And during those years the "Good," and the "Health" would have induced the consumer to pay a reasonable price, with a fair profit for everybody.

Anybody got a better way to solve the low-price problem? Anybody want to argue about my idea?

THE NAME MERCOID ON A CONTROL IS A Certificate OF TROUBLE-FREE INSURANCE

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- ✓ No Dust Bag to Empty
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- ✓ Easy to Handle

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